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Grow Taller Now
First Edition

INTRODUCTION

Height is a very subjective term. What one person considers as tall may be short to someone else. Nevertheless, there are many personal, professional, financial and gender advantages to being taller such as the following:

- women are naturally more attracted to taller men
- society associates attributes power, intelligence, leadership, confidence, and competence to taller individuals
- better self-confidence and self-esteem
- taller men are inexplicably selected 75% of the time for a job compared with shorter men with similar credentials and experience

Like it or not, height does play a part in our daily lifestyles and chances of success. It may the deciding factor towards your professional and personal successes. Here's another little known fact - 95% of all the tall people in this world have shorter parents and grew taller as a result of certain factors that will be discussed in this book.

Information in this book will increase your height, maximise your individual growth potential as well as provided you with the following additional benefits.

- longer, stronger, flexible, and more supple spine
- thin and sculpted stomach and back
- enhanced ability to perform skilled movements
- increased mental and physical relaxation
- enhanced development of body awareness
- enhanced physical fitness

You will grow taller, think clearer and be physically fit. By reducing the effects of aging, you will be able to live your life to the fullest! This book promotes total well being by presenting nutritional advise and numerous growth enhancing exercises, as well as interesting snippets on height-related information that can be enjoyed by everyone.

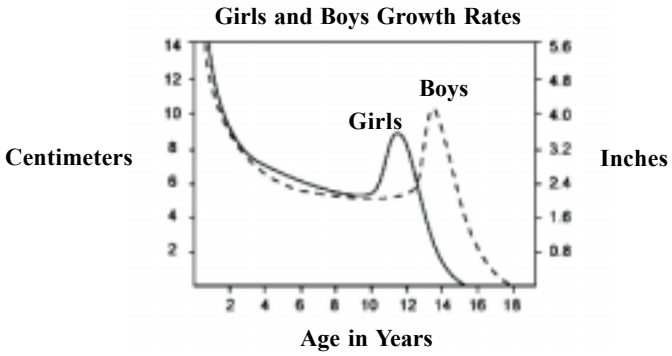
No matter how old you may be, follow the recommendations in this book and you can increase your height and stand tall in due time. Good luck and happy reading!

Part 1
FACTS ABOUT GROWTH & HEIGHT

Human Growth Periods

There is a lot of misinformation regarding the ages that growth takes place, how tall you will likely be, and what the exact roles of heredity and environment have on your growth. Throughout your life you will constantly generate human growth hormone. Maintaining your bodies chemical balance and cell rejuvenation are two main reasons your body generates Human Growth Hormones (HGH). Whether you are looking forward to increasing your linear height, developing bone density, or regenerating your bone cells, human growth hormone can be manufactured in great amounts and is distributed most often during certain periods of your life. There are a number of factors that, if manipulated correctly, will substantially increase growth hormone levels in your body.

It is quite common for boys and girls to grow suddenly as they enter puberty. This is called the growth spurt. The graph below shows this more clearly:



Growth takes place from time of fertilisation to about age thirty and it is seldom smooth, regular, and predictable. Most girls will have their growth spurt between ages 10 and 14, during the early stages of puberty. During this growth spurt that lasts for a year or two, growth is rapid. They can grow as much as 3½ inches per year during this duration. Hence, it is common for 12 and 13 year old girls to be taller and heavier than boys.

Most boys start puberty and begin their growth spurt between ages 13 and 15. Their growth spurt also lasts for a year or two and during this period they may gain as much as 4½ inches per year. By age 15, it is common for boys to become taller and heavier than girls. After the growth spurt, growth continues but slows down to a steadier rate.

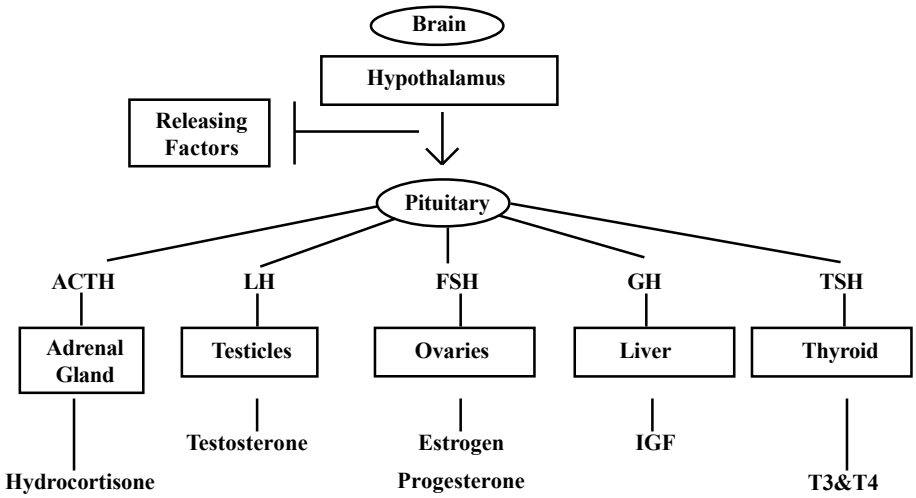
It is important to note that growth spurt can occur within a wide age range. Each individual may experience growth spurt earlier or later than the average age. Although it is widely accepted that an individual's maximum height is achieved by the late teens, it is however incorrect. Most girls reach their full height by 17 while most boys by 19, although lots of individuals continue to grow into the twenties. The vertebrae in the spinal column continue to grow in length and width until about age thirty.

The growth you experience and the height that you ultimately acquire is the result or heredity and the environment. Therefore it will be incorrect to assume that the maximum height you obtain is solely the result of heredity.

Environmental factors that affect your height include disease, stress, nutrition, exercise and sleep. They are just as important as heredity in determining growth. You may have little or no control over your genes, but you may manipulate the environment you are in. By understanding these factors, you can use them to your full advantage.

Growth Hormone

Hormones are chemicals produced by special cells in glands and other organs of the body. Most hormones are produced by cells in the endocrine glands. These hormones are produced in very small amounts and are released into the bloodstream and travel to the organ or tissue where their effect takes place. Several hormones are involved in regulating growth. Some act directly on organs, while others act by triggering the production of other hormones, which activates specific organ functions that is necessary for growth. Growth hormone is a protein produced particularly by the pituitary gland. Proteins are made of building blocks known as amino acids. Located in the centre of our brain, the pituitary gland is often called the master gland because it controls the release of many of the body's hormones.



Overview of some of the most important hormones

There are two unnatural ways to increase growth hormone level – growth hormone-releasing products and injections.

Growth hormone-releasing products such as glycine, glutamine, agrinine, ornithine, niacin, and 16 other amino acids can be obtained without prescription. These substances are usually used by bodybuilders. Some of them are good for boosting immunity, protecting the liver, fighting cancer, rebuilding body tissue after surgery or trauma, amongst many other applications.

Some types of amino acids help produce growth hormone and with proper exercises may increase your growth. Performing this self-treatment without medical supervision, especially for children, is not recommended. These drugs have to be taken in proper dosage and some of them need to be combined with other drugs or nutrients. Improper usage may cause you grievous health problems. There are many side effects such as diarrhoea, low toxicity, headache, drowsiness, muscle spasms, dizziness high blood pressure, nervousness, depression, hair loss, gaining weight, and many more.

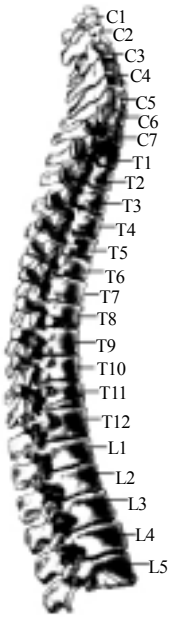
Manmade growth hormone is administered by a series of injections that could cost anywhere from USD12,000 to USD18,000 a year. It is usually prescribed after careful evaluation of an individual's growth pattern and growth potential. These injections may help you grow, but inducing growth too quickly may inhibit growth at a later stage. Growth hormone may produce various other side effects such as high cholesterol, diabetes, liver abnormalities, increased tissue stiffness, carpal tunnel syndrome, musculoskeletal disease, neuropathy, allergic reactions, pancreatitis, hyperglycemia, visual deterioration, headaches, vomiting, increased liver enzyme levels, increased sweating, edema, pain in general and back pain specifically. If you receive these injections, your body will adapt to this drug, and will refuse to produce natural growth hormone after you stop receiving injections. If you think these procedures are not for you, read further.

Exercise, stress and emotional excitement induce growth hormone release. On the other hand, obesity and fatty acids inhibits the release of growth hormone. It is growth hormone that grows the cells, bones, muscles, and organs of our bodies.

The Spinal Column

Fundamental knowledge of its structure and function can dramatically increase your height and growth potential. The spinal column is one of the most important body parts. Without it you could not support yourself upright and perform many complex functions. A healthy spine will optimise your body's transmission of energy and go through your daily tasks with ease and comfort.

For adults, there are 33 vertebrae in your spinal column. The first important component of the spine is cartilaginous pads called intervertebra discs. These discs are located between each of these 33 vertebrae. They are pads of soft tissue that lie between the vertebrae. Its main function is to act as shock absorbers and provide separation between each vertebra. It is also responsible for the flexibility of the spine. On average, your total discs account for one-quarter the length of your vertebral column 4.50" to 6" (12 to 15 cm) for most people. The thicker those discs, the longer your spinal column is and the taller you become.



The Spinal Column

The vertebral column typically consists of 33 vertebrae - 7 cervical, 12 thoracic, 5 lumbar, 5 fused sacral and 4 coccygeal.

The only way for the discs to return to a more youthful state is to stimulate the spine. This can be done by regular stretching and moving the spine through its full range of motion so that blood circulation and fluid content of the discs are increased. Otherwise, the discs may lose its elasticity and become rigid, and hence will lead to height loss. Regular stretching and inversion can help increase your height by expanding the discs and lengthening your spine.

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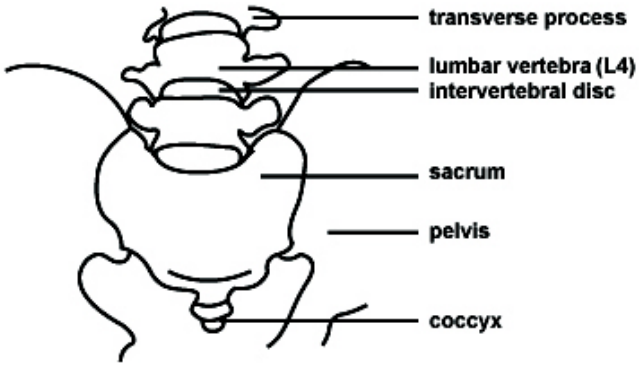


Intervertebral discs

These discs acquire nourishment through fluid-attracting and fluid-absorbing qualities of its jelly-like nucleus. During non-weight bearing activities (like sleeping) the discs expand as they soak up fluid, increasing the length of the spine by as much as an inch overnight. However, the pull of gravity during the day results in compression fatigue that causes the average adult loses an inch in height each day primarily because fluid is squeezed out of the spinal discs (this reverses during sleep). Therefore, if you measure yourself in the morning right after you wake up, you are about an inch taller than if you were to measure yourself at night.

The second important component of the spine is the supporting muscles i.e. adjoining muscles and ligaments. They help you move and support your spine. Muscles are used for three basic functions – support, movement and posture control. Your muscles help influence your posture and height by:

1. Creating and maintaining the curves of your spine
2. Resisting the force of gravity, and straightening by contracting and exerting compressive force on your spine
3. Supporting your spine

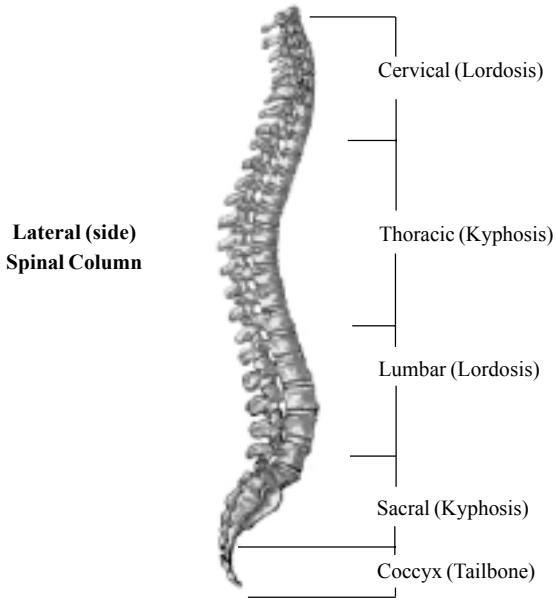
Weak muscles will give you poor posture and hence, your height is not maximised. You can grow taller and increase your height by correcting your posture. Pilates is one exercise that will help strengthen your postural muscles. By emphasising posture, you will learn to stretch your spine.

The third important structure of the spine is the spinal curves. A normal spine is shaped like the letter "S". Any excessive exaggeration of the spine's curves results in height loss and compression of the discs. There will also be stress and strain on the entire back. The most common posture problem is swayback, where your lower back's curve is exaggerated. This is caused by weak abdomen muscles, excessive stomach fat (tummy) or just plain old habits.

Spinal curves are either kyphotic or lordotic. In a normal spine there are four types of spinal curvatures important to balance, flexibility, and stress absorption and distribution.

Type of Spinal Curves	**Curve Description**
Kyphosis or Kyphotic Curve	Concave anteriorly and convex posteriorly
Lordosis or Lordotic Curve	Convex anteriorly and concave posteriorly
Curvature	**Normal Curvature**
Cervical Lordosis	20 to 40 degrees
Thoracic Kyphosis	20 to 40 degrees
Lumbar Lordosis	40 to 60 degrees
Sacral Kyphosis	Sacrum fused in a kyphotic curve

The second most common is that of a rounded upper back or hunchback. This is due to weak shoulder muscles or poor standing posture. The final one is what we call a poke neck. This is where the head thrust forward at the neck. This is mainly due to habitual behaviour. By consciously trying to stand straight and walk tall at all times, you can start to improve your posture and strengthen the relevant muscles to relieve unnecessary stress and compression on your discs. As a result, your height is maximised. Follow the recommended exercises to correct any excessive spinal curve exaggeration.



Different positions can place different stresses on the spine. The following chart outlines how posture can affect the low back.

Position	Force
Standing at ease	500 N
Lying on your back	250 N
Sitting, no back support	700 N
Sitting with lumbar support	400 N
Coughing	600 N
Forward Bend, 20°	600 N
Forward Bend, 40°	1000 N
Forward Bend, 20° with 20 kg	1200 N
Forward Bend, 20° rotated 20°, 10 kg	2100 N
Sit-ups	1200 N
Holding 5 kg, arms extended	1900 N

Approximate load on L3 disc in a person weighing 70kg

As you can see, proper posture can greatly decrease the forces that are applied to your lower back. Here are a few things you can do to protect your back:

- Lift objects by bending at the knees, not at the waist.
- If you are carrying an object, hold it close to your body, not with your arms extended.
- Never cough while bending forward as this really puts you in a position to hurt your back.

Height Decreasing Disorders

Many conditions or disorders can cause a loss of height or a hindrance of growth. Some are easy to detect and correct, and some are not. The stresses and pressures caused by the environment have lead many people, particularly women, into establishing unhealthy eating habits and disorders. There are a couple of genetically induced diseases that contribute to growth abnormalities as well as height decreasing conditions. We will briefly highlight a few common problems that can cause height loss.

Scoliosis

Scoliosis is a condition where there is a sideways or lateral curvature of the spine. If scoliosis is severe, it can be observed by looking at an individual's back. If the scoliosis is present in a lesser degree, it can be detected through an X-ray. This condition reduces your height, adds stress and strain on the muscles, ligaments, and discs at the back. If the condition is not corrected, it may cause further problems.

Scoliosis

When scoliosis is severe, surgery is required to correct it. Upon which, patients usually gain at least an inch and more in height. If anyone suffers from scoliosis, the best thing is to consult a professional before starting any type of stretching or exercise programme. However, if scoliosis is present to a lesser degree, stretching and strengthening exercises can be extremely beneficial in correcting it. Stretching and strengthening underdeveloped back muscles can correct postural imbalances and promote proper alignment of the back. Hence, there will be a decrease of the curvature and an increase in height.

Knock-knees

One condition that may cause a decrease in height is knock-knees, also known as valgus knees. Knock-knees usually occur after an injury when proper healing does not happen. They can also result from poor arches or weak muscles and ligaments.

If you suffer from knock-knee that causes any pain or discomfort, it is best to consult a physician. Exercise cannot help severe cases of knock-knees. In severe cases, surgery may be required.

Bowlegs

Bowlegs, also known as varus knees, can occur after an injury but it is most often caused by weak ligaments and muscles of the knees. This condition usually begins from childhood. If it is diagnosed early, when the child is still growing, it can be corrected by wearing special kinds of shoes.

Another cause is malnutrition, especially a lack of Vitamin D or insufficient calcium intake where the bones failed to ossify. This results in soft bones resulting in bowlegs. Same as knock-knees, it is best to consult your physician if your bowlegs cause pain or discomfort. Exercises can help and retard mild case of bowlegs by strengthening the muscles, tendons, ligaments, and bones of the legs. Severe cases such as injury or subnormal absorption by the small intestine would require medical attention.

Bowlegs

Knock-Knees

Normal

Hyperextended Knees

Hyperextended knees refer to condition where the knees are thrown back in a locked position. This causes problems to your knees and also contributes towards the development of lordosis.

If the knees are not extensively hyperextended, they can be corrected. The best treatment is to strengthen the leg muscles, especially the thigh muscles. Some of the helpful thighs strengthening exercises include squats, lunges, and leg presses. Consciously reminding yourself to keep your knees loose when you feel them locked back also helps correct the problem.

Growth Hormone

Growth hormone, also known as somatotropin, is most readily released during deep sleep and exercise. Growth hormone accelerates growth by increasing the size of organs and promoting the growth of bones. If there is an overproduction of growth hormone is an adult, the bones increase in thickness instead of length. That leads to acromegaly - the enlargement of the bones of the head, feet, hands, and sometimes other structures.

Knee Flexure

Knee Flexure

Knee flexure is when the knees are in a constant state of being bent. A flat back and poor posture usually accompanies this condition. Knee flexure is not a serious problem and can be easily corrected. Stretching and increasing the flexibility of the hamstring and calf muscles can correct mist knee flexure problems.

Dysfunction that causes underproduction of growth hormone during childhood may result in dwarfism. As described in an earlier chapter, most physicians hesitate to administer artificial growth hormone to normal children for the sole purpose of making them taller.

Other Growth Disorders

Other growth disorders include the inability to properly absorb food. This is usually caused by a problem in the intestine. When an individual cannot properly absorb and digest essential nutrients, they suffer from a lot of symptoms, including stunted growth. A growth disorder can also be the result of certain lung and kidney disorders.

Psychological stress can also cause short statue and stunted growth. Some children fail to grow if they suffer from severe physical or emotional abuse. However, if removed from an abusive environment, the secretion of human growth will tend to resume. If you have concerns regarding your growth, it is best to visit your doctor or medical professional that specialises in growth disorders.

Height & Weight Chart

Ideal Height and Weight Table for Men
(indoor clothing weighing 5 lbs. & shoes with 1" heels)

Height	Small Frame	Medium Frame	Large Frame
157.5 cm 5 feet 2 inches	58.2 - 60.9 kgs 128 -134 lbs	59.5 - 64.1 kgs 131-141 lbs	62.7 - 68.2 kgs 138-150 lbs
160.0 cm 5 feet 3 inches	59.1 - 61.8 kgs 130-136 lbs	60.5 - 65 kgs 133-143 lbs	63.6 - 69.5 kgs 140-153 lbs
162.5 cm 5' feet 4 inches	60.0 - 62.7 kgs 132-138 lbs	61.4 - 65.9 kgs 135-145 lbs	64.5 - 70.9 kgs 142-156 lbs
165.1 cm 5 feet 5 inches	60.9 - 63.6 kgs 134-140 lbs	62.3 - 67.3 kgs 137-148 lbs	65.5 - 72.7 kgs 144-160 lbs
167.6 cm 5 feet 6 inches	61.8 - 64.5 kgs 136-142 lbs	63.2 - 68.6 kgs 139-151 lbs	66.4 - 74.5 kgs 146-164 lbs
170.2 cm 5 feet 7 inches	62.7 - 65.9 kgs 138-145 lbs	64.5 - 70 kgs 142-154 lbs	67.7 - 76.4 kgs 149-168 lbs
172.7 cm 5 feet 8 inches	63.6 - 67.3 kgs 140-148 lbs	65.9 - 71.4 kgs 145-157 lbs	69.1 - 78.2 kgs 152-172 lbs
175.3 cm 5 feet 9 inches	64.5 - 68.6 kgs 142-151 lbs	67.3 - 72.7 kgs 148-160 lbs	70.5 - 80.0 kgs 155-176 lbs
177.8 cm 5 feet 10 inches	65.5 - 70.0 kgs 144-154 lbs	68.6 - 74.1 kgs 151-163 lbs	71.8 - 81.8 kgs 158-180 lbs
180.3 cm 5 feet 11 inches	66.4 - 71.4 kgs 146-157 lbs	70.0 - 75.5 kgs 154-166 lbs	73.2 - 83.6 kgs 161-184 lbs
182.9 cm 6 feet 0 inches	67.7 - 72.7 kgs 149-160 lbs	71.4 - 77.3 kgs 157-170 lbs	74.5 - 85.5 kgs 164-188 lbs
185.4 cm 6 feet 1 inches	69.1 - 74.5 kgs 152-164 lbs	72.7 - 79.1 kgs 160-174 lbs	76.4 - 87.3 kgs 168-192 lbs
188.0 cm 6 feet 2 inches	70.5 - 76.4 kgs 155-168 lbs	74.5 - 80.9 kgs 164-178 lbs	78.2 - 89.5 k 172-197 lbs
190.5 cm 6 feet 3 inches	71.8 - 78.2 kgs 158-172 lbs	75.9 - 82.7 kgs 167-182 lbs	80.0 - 91.8 kgs 176-202 lbs
193.0 cm 6 feet 4 inches	73.6 - 80 kgs 162-176 lbs	77.7 - 85.0 kgs 171-187 lbs	82.3 - 94.1 kgs 181-207 lbs

Ideal Height and Weight Table for Women
(indoor clothing weighing 3 lbs. & shoes with 1" heels)

Height	Small Frame	Medium Frame	Large Frame
147.3 cm 4 feet 10 inches	46.4 - 50.5 kgs 102-111 lbs	49.5 - 55.0 kgs 109-121 lbs	53.6 - 59.5 kgs 118-131 lbs
149.9 cm 4 feet 11 inches	46.8 - 51.4 kgs 103-113 lbs	50.5 - 55.9 kgs 111-123 lbs	54.5 - 60.9 kgs 120-134 lbs
152.4 cm 5 feet 0 inches	47.3 - 52.3 kgs 104-115 lbs	51.4 - 57.3 kgs 113-126 lbs	55.5 - 62.3 kgs 122-137 lbs
154.9 cm 5 feet 1 inches	48.2 - 53.6 kgs 106-118 lbs	52.3 - 58.6 kgs 115-129 lbs	56.8 - 63.6 kgs 125-140 lbs
157.5 cm 5 feet 2 inches	49.1 - 55.0 kgs 108-121 lbs	53.6 - 60.0 kgs 118-132 lbs	58.2 - 65.0 kgs 128-143 lbs
160.0 cm 5 feet 3 inches	50.5 - 56.4 kgs 111-124 lbs	55.0 - 61.4 kgs 121-135 lbs	59.5 - 66.8 kgs 131-147 lbs
162.5 cm 5' feet 4 inches	51.8 - 57.7 kgs 114-127 lbs	56.4 - 62.7 kgs 124-138 lbs	60.9 - 68.6 kgs 134-151 lbs
165.1 cm 5 feet 5 inches	53.2 - 59.1 kgs 117-130 lbs	57.7 - 64.1 kgs 127-141 lbs	62.3 - 70.5 kgs 137-155 lbs
167.6 cm 5 feet 6 inches	54.5 - 60.5 kgs 120-133 lbs	59.1 - 65.5 kgs 130-144 lbs	63.6 - 72.3 kgs 140-159 lbs
170.2 cm 5 feet 7 inches	55.9 - 61.8 kgs 123-136 lbs	60.5 - 66.8 kgs 133-147 lbs	65.0 - 74.1 kgs 143-163 lbs
172.7 cm 5 feet 8 inches	57.3 - 63.2 kgs 126-139 lbs	61.8 - 68.2 kgs 136-150 lbs	66.4 - 75.9 kgs 146-167 lbs
175.3 cm 5 feet 9 inches	58.6 - 64.5 kgs 129-142 lbs	63.2 - 69.5 kgs 139-153 lbs	67.7 - 77.3 kgs 149-170 lbs
177.8 cm 5 feet 10 inches	60.0 - 65.9 kgs 132-145 lbs	64.5 - 70.9 kgs 142-156 lbs	69.1 - 78.6 kgs 152-173 lbs
180.3 cm 5 feet 11 inches	61.4 - 67.3 kgs 135-148 lbs	65.9 - 72.3 kgs 145-159 lbs	70.5 - 80.0 kgs 55-176 lbs
182.9 cm 6 feet 0 inches	62.7 - 68.6 kgs 138-151 lbs	67.3 - 73.6 kgs 148-162 lbs	71.8 - 81.4 kgs 158-179 lbs

Part 2
UNDERSTANDING CHILDREN'S GROWTH

Our society places a high value on a person's height, almost more than any other characteristic. Children who are shorter than their peers face significant challenges. They are often teased, and are on the receiving end of name-calling and prejudice. They may deal with their frustration by becoming depressed, angry, or aggressive. If they do not experience a growth spurt, they will face other challenges as adults. Parents need to be aware of these challenges so they can help their children become happy and productive. Administering Human Growth Hormone is one treatment, in certain cases, but we also explore other ways that parents can help their children.

Genetics play the most important role in determining a child's final height but there are some common sense steps parents can take to maximise their children's growth. Growing children should:

1. Eat healthy food.
2. Get a good night's sleep.
3. Get plenty of exercise. Without exercise, nutrition goes into building fat instead of height.
4. Don't smoke! Second-hand smoke has also been linked to reduced growth.

If you are concerned about a child's growth, the first thing you should do is contact the paediatrician. Depending on a child's age and height, the paediatrician may decide to begin diagnostics or refer you to a paediatric endocrinologist. A paediatric endocrinologist specialises in the hormone system of children. The hormone system regulates growth in children, as well as many other biological functions. It will be helpful to the physician if you provide information about your child's growth patterns. This could be as easy as providing a representation of the wall or door you use to measure a child's height, since he or she began to stand. Your

The information presented here is meant to help parents discuss their child's growth with their paediatrician. It is not a substitute for those discussions. The physician should first discuss with you the possible causes of short stature. It is important to not jump to conclusions. Allow enough time for the physician to conduct the right tests. Testing may require six months to a year and may include detailed recording of height changes over time.

Possible Causes For Short Stature

There are many possible causes for short stature. Each cause may or may not be treatable.

Familial

The most likely reason for a child to be short is because his or her parents are short. Children generally inherit all of their physical characteristics from their parents. Besides height, some of the most obvious are eye colour, hair colour, facial features and perhaps intelligence. Children from short parents can be expected to reach an adult height about the same as their parents. However, children often grow taller than their parents because today's improved knowledge of nutrition and medical practices. Treatment with Human Growth Hormones is not indicated in these cases because the child's growth hormone production is normal according to their physiology.

Constitutional Growth Delay

In Constitutional Growth Delay, children grow slowly at first. Then during puberty they grow quickly, reaching a normal height approximately the same as their parents. Boys are more likely to have Constitutional Growth Delay than girls. Children with Constitutional Growth Delay may experience growth spurts before they start school but do not catch up to their peers until puberty. Constitutional Growth Delay may run in families.

Growth Failure

These conditions indicate a problem with the child's physiology and are grouped into three categories - Systemic, Endocrine and Congenital. Treatment may or may not be possible, depending on the specific condition.

Idiopathic Short Stature

When children do not demonstrate any symptoms, and test results do not indicate a problem, they are said to have idiopathic short stature. These children are physically and mentally normal, but they are short. Idiopathic short stature is uncommon. The effect of growth hormone treatment on children with Idiopathic Short Stature has been inconclusive. There is no evidence that treatment may increase their adult height and is not recommended by the medical community.

Physical Examination

After the first consultation, the physician or paediatric endocrinologist will conduct a series of tests to determine if there is a problem, and if there is a possible course of action.

Height Measurements

The first thing the doctor will do is measure the child and ask for information about the child's previous growth patterns and the heights of his or her parents and other relatives. With this information and a Standard Growth Chart, the doctor can determine if the child is on the right growth path according to his or her genetics, or if there might be a more serious problem.

Blood Tests

Blood tests will be performed to determine if there are any physiological problems. Some conditions are easily determined while others are more difficult. The lack of adequate production of Growth Hormone is difficult to determine because it is produced in spurts and does not remain in the blood stream very long. Many blood samples may be needed over the course of a few months to obtain an accurate reading. Alternatively, the doctor may advise that the child be placed in a hospital for a few days so the blood can be checked every few hours.

X-rays

X-rays of the child's hand can indicate his or her growth potential. Each long bone in the body has a growth plate on one or both ends where growth occurs. The doctor can view the structure of the growth plates and the distance between the bones to determine how much future growth is possible. The hand is a good part of the body to use because there are so many bones in it.

As children reach puberty, the growth plates close and no further growth occurs. If the X-rays indicate that more growth is possible and that the child is low in growth hormones, then growth hormone treatment is indicated. However, if the growth plates are nearly closed, Growth Hormone treatment is not likely to produce positive results.

Human Growth Hormone Treatment is an expensive proposition. It can cost up to USD1,000 a week, depending on how much growth hormone the child needs. While under treatment, the child receives injections three to seven times per week. For treatment to be effective, he or she must continue to receive injections until the end of puberty. It is important for parents to understand that Human Growth Hormone treatment should only be applied when it is determined that the child is not producing enough Growth Hormone.

Too much Growth Hormone could trigger an early onset of puberty, closing the growth plates and reducing the child's final height. Whatever your physician advises, you may want to consider a second opinion, especially from a paediatric endocrinologist. Here are some websites for further information.

- **Human Growth Foundation -**
  http://www.hgfound.org
- **Lilly: Humantrope -**
  http://www.humantrope.com
- **Endocrine Society -**
  http://www.endo-society.org
- **Physicians Committee for Responsible Medicine -**
  http://www.pcrm.org/issues/Ethics_in_Human_Research/ ethics_human_growthhormone.html
- **Child Abuse & Neglect: Psychosocial Dwarfism -**
  http://www.emedicine.com/PED/topic566.htm

Standard Growth Chart

One tool that physicians use to determine if there may be a growth problem is the Standard Growth Chart. There is a separate chart for boys and girls.

The first step is to plot the child's height and age on the appropriate growth chart to determine what percentile group he or she is in. For example, Boy A is 10 years old and 55 inches tall. This boy is right in the middle of the growth curve and will probably be average height as an adult. Boy B is also 10 years old but stands only 50 inches tall. He would be in the 3rd percentile for boys his age and his final height may be quite short.

If height history is available, the physician can determine if the child has steadily followed one of the percentiles, or has suddenly dropped from one to another. For example, Girl A's history is as follows:

Age	Height
4	41”
5	44”
6	47”
7	49”
8	50”
9	51”

Between ages 4 and 7 she was consistently around the 75th percentile. While she continued to grow, by age 9 she has dropped to the 25th percentile. This could indicate the onset of a growth failure. If, on the other hand, she had consistently placed near the 25th percentile, then she is probably short due to genetic factors. Unless her parents are in a significantly higher percentile, her growth is progressing well and is less of a concern.

The next step is to predict the child's final adult height. Actual adult height depends on many factors including the child's health, nutrition, stress level and most importantly, genetics. The physician should ask about all of these factors as well as the heights of the child's parents and other relatives. If both parents are in the 3rd percentile for height, then it should not be surprising that Boy B described above is also in the 3rd percentile for boys age 10. If Boy B consistently placed in the 3rd percentile during his 10 years, then in all likelihood, he will continue to grow according to his placement on the curve and should be expected to reach a height near his parents. However, if his parents are in a significantly different percentile, there may be a problem, and a physical exam is indicated. Of course the boy's father and mother may be in two different percentiles, which makes the prediction of Boy B's adult height more complicated.

Part 3
FACTORS THAT AFFECT GROWTH

Nutrition

Undoubtedly, the quality, quantity, and type of food we eat affect our height, growth, and health. We cannot emphasize enough how important your food intake is in determining how much growth you can possibly obtain. The types of food you eat will either improve or decrease your growth potential.

After careful consideration and research, the daily content of protein, carbohydrates, fats and water can be achieved if the following items were taken regularly. Please take note that this is a guideline and you are free to your own thoughts. Feed yourself rationally to increase your height, be full of energy and live a fuller life.

Carrots	**Fish**	**Liver**
Egg Yolk	**Beef**	**Red Meat**
Milk	**Cheese**	**Apples**
Green Vegetables	**Potatoes**	**Nuts**
Yellow Vegetables	**Almonds**	**Bananas**
Peanuts	**Chicken**	**Beans**
Peas	**Salt**	**6-8 glasses of water per day**

Fact and Myth

If you eat a lot of peanut butter, your height will not necessarily stop. Neither does masturbation stop height. What might stop you from growing is smoking, drugs, alcohol, lack of sleep, stress, digestive problems, or lack of exercise.

Eating Patterns

Eat at least two hours before starting your exercise. It is a fact that insulin levels are highest right after a big hearty meal. Insulin suppresses HGH release and a big meal takes blood away from your muscles and redirects it to your stomach. Eating right after exercise is also important so that muscle dystrophy would not occur.

Eating before exercise

Any carbohydrate such as baked potato, bread and jam, spaghetti, or cereal are good choices. Try to eat foods with a medium glycemic index so that your body will have a constant source of energy while exercising. Do not eat chocolate, sugar cubes, and other high sugar content food.

Eating after exercise

We recommend one cup of orange juice mixed with one cup of water, and ¼ tablespoon of salt after a good workout or exercise. However, never ever drink immediately after you have run long and fast, because you can choke. Let your breath stabilise before drinking. As for food, anything high in protein is a good source, mixed with some carbohydrate. A good ratio is ¼ protein and ¾ carbohydrate.

Mixing instant breakfast with one cup of milk and one small banana is a good combination. Also, never mix protein with hot water or it will deform at a molecular level and lose its benefits. Another good alternative is 2 tablespoons of protein powder, 1 cup 2% milk, 1 cup water and a banana, or 2 slices of bread to go along with it.

What to avoid

Do not eat meals in large quantities. It is recommended to eat 5 - 7 meals a day. Also, never eat during two hours before sleeping. Eating right before sleep inhibits HGH release and your efforts go to waste. Foods high in saturated fats, high in sugar and processed foods are to be avoided. Do not drink too much water or milk at any one time. Drink at regular intervals (approx. 8 glasses of water a day).

Useful proteins

The ones that are easily absorbed in the blood stream are most beneficial. Examples of such protein are whey protein, milk, yoghurt, cheese, and boiled chicken. Protein such as eggs and meat are hard for the body to absorb, and take longer to go through your digestive system.

Fibre

Eating extra protein is unnatural. However, for our purposes we need lots of protein. To make sure you do not get constipated, eat cucumbers or 'boiled' carrots with your meals. They provide essential fibre so you will stay regular and not get stomach cramps.

Food for growth

Your bones need phosphorus, calcium, and magnesium while your muscles need water, protein and carbohydrates to grow. Since you are growing taller, both your muscles and bones are getting bigger and longer. Take into consideration what food to eat and when, and let commonsense be your guide.

The correct regular diet you need to grow taller is a proper combination of proteins, vitamins and minerals. So your regular diet should be rich in these three kinds of nutrients - Carbohydrate, Protein & Fats.

Carbohydrate

A common regular diet that will stunt height growth is one that includes too much carbohydrate. Carbohydrates are usually rich in foods like rice, bread, potatoes, corn, and other cereal grains. Avoid eating too much carbohydrate since they contain lots of energy (calories) but few vital nutrients that can help your body to grow.

This is actually why Asian people are shorter then the European and American people. Asian people's diet are mainly consisted of carbohydrates type of foods like rice or corn, but European and American people consume much more protein-rich foods. So do not make rice, bread, potatoes, or cereal grains as your main foods if you want to grow taller!

Fats

Another common diet that will stunt height growth is one that includes too much lipids (fats). There are two kinds of fats: saturated fats and unsaturated fats. Saturated fats are mostly bad since they have high contents of cholesterol, which can cause heart disease because arteries could be clogged with fatty material. Also, saturated fats contain large amount of calories, which can easily increase your weight. Extra weight is the enemy of height since the more weight you have, the shorter you appear. So avoid eating excessive saturated fats.

Animal meat like chicken, pork, beef are rich in saturated fats. So you should avoid eating them too much. Unsaturated fats are much better since they contain much lower amount of cholesterol and calories. Since you do need some fats to insulate your body and regulate your metabolism, you had better ingest more unsaturated fats to satisfy your body's needs.

Vegetable oils contains large amount of unsaturated fats. Commonly used unsaturated vegetable oils are corn, soy, cottonseed, and safflower oils. Note that raw milk and butter contains lots of saturated fats, so you should drink skim milk and cook with vegetable oils instead of butter. Sweet foods like cookie, cake, ice cream also have very high contents of saturated fats and calories and you should restrict yourself from eating them too much.

Protein

In order to grow taller, your body need proteins, vitamins and minerals more readily than carbohydrates and fats. Proteins are composed of one or more chains of amino acids. They are fundamental components of all living cells and include many substances, such as enzymes, hormones, and antibodies that are necessary for the proper functioning of an organism. They are essential in the diet of animals for the growth and repair of tissue and thus you should ingest large amount of protein if you want to grow taller.

The best food for complete proteins (those that contain the most appropriate distribution of amino acids for growth) are fish, eggs, milk, and legumes. These foods contain most of the 20 amino acids, including the 8 essential amino acids that are not synthesized by your body. Therefore, replace rice, bread, and hamburger with fish, eggs, and skim milk.

Here are the natural sources for some Amino Acids.

Amino Acid	Natural Sources	Function
Arginine	Brown rice Carob Chocolate Nuts Oatmeal Popcorn Raisins Raw cereals Sesame seeds Sunflower seeds Whole-wheat products	☐Functions as building block of all proteins ☐Stimulates human growth hormone
L-Lysine	Cheese Eggs Fish Lima beans Milk Potatoes Red meat Soy products Yeast	☐Functions as essential building block of all proteins ☐Promotes growth, tissue repair and production of antibodies, hormones, enzymes
Tyrosine	Almonds Avocados Bananas Cheese Cottage cheese Lima beans Non-fat dried milk Peanuts Pickled herring Pumpkin seeds Sesame seeds	☐Functions as building block of all proteins ☐Can induce significant short-term increases of blood levels of norepinephrine, dopamine and epinephrine. May be harmful at times and helpful at others. Don't take without medical supervision

Amino Acid	Natural Sources	Function
Taurine	Eggs Fish Meat Milk	☐May be helpful in treating epilepsy ☐Functions as building block for all proteins ☐Helps regulate nervous system ☐Helps regulate muscle system ☐Unproved speculated benefits. May be essential for growth of infants, children, adolescents
L-Carnitine	Avocados Dairy products Red meats, especially lamb and beef Tempeh (fermented soybean product)	☐ Promotes normal growth and development
Folic Acid	Barley Beans Brewer's yeast Calves' liver EndiveFruits Garbanzo beans (chickpeas) Green, leafy vegetables Lentils Orange juice Oranges Peas Rice Soybeans Split peas Sprouts Wheat Wheat germ	☐Promotes normal red blood cell formation ☐Maintains nervous system, intestinal tract, sex organs, white blood cells, normal normal patterns of growth ☐Regulates embryonic and fetal development of nerve cells ☐Promotes normal growth and development ☐Treats anaemia due to folic-acid deficiency occurring from alcoholism, liver disease, hemolytic anaemia, spruce, pregnancy, breast-feeding, oral-contraceptive use

Natural Sources for Amino Acids

Alcohol, Tobacco and Drugs

Don't waste your money or your health on drugs, alcohol or cigarettes. Invest your money on nutritious foods or good quality food supplements. Know how to say 'NO' to:

- self destructive drugs
- intoxicating alcohol
- poisonous cigarettes

Instead choose healthy living, natural products which provide, health, strength, endurance, energy, and all round well-being.

Detoxification

Clean yourself out and you'll be in better shape and you'll feel unbelievably great because your internal organs will work better. Consult a nutritionist who can advise you on detoxification. Once or twice a year, you could try the following purgative to really clean out your system:

- Put two (2) ounces of castor oil in a glass.
- Add a teaspoon of bicarbonate of soda.
- Dilute with orange juice.
- Drink.
- Wait twenty-four hours before taking a second and last glass of the same mixture.

Tips for healthy nutrition

1. Eat at regular hours.
2. Don't skip any meal.
3. Don't forget to eat breakfast. Always start the day with a well-rounded meal.
4. Take the time to taste and to chew your food well.
5. Vary your menu.
6. Avoid pastries, sweets, crisps, soda drinks - anything that has little or no nutritious value.
7. Beware of salt consumption. It can cause hypertension.
8. Eat a lot of raw vegetables and fresh juice. Choose whole wheat bread.
9. Drink six (6) to eight (8) glasses of water or vegetable juice or sugar-free juice per day.
10. You should also drink milk.
11. Eat good quality food supplements every day.
12. After each meal you should rest. Don't start to work or exercise right after.

Vitamins and Minerals

An adequate and sufficient supply of vitamins and minerals must be consumed in order for all the physiological functions of the body, in particular growth and development, to take place at the most optimum level. Eating fish is of supreme importance, it has lots of minerals that other foods lack, and help your body grow. Undoubtedly, vitamins and minerals are responsible for your bone length and density. The bone mineral established during childhood and adolescence may be the determinant of bone mineral in adulthood.

Elements that help you grow are as follows.

Protein

Proteins are essential for growth because it is required for cartilage tissues and bones. Proteins are a nutritious substance, composed of twenty-two (22) amino acids. Fourteen (14) of these produced by our own organism. The others must be supplied simultaneously to our body. Here is the list of some of them:

- Tryptophane (considered to be a soporific or sleep inducing)
- Leucine
- Isoleucine
- Lysine
- Valine

Calcium
Apricots, celery, lemon, cabbage, endives, spinach, figs, halibut. Cheese, sweet-lime, blackberries, onions, oranges, prunes, radishes, salmon, bran, yoghurt, etc.

Phosphorus
Phosphorus is necessary for bones. Sources - Garlic, lamb, almonds, asparagus, carrots, celery, cereals, mushrooms, crustaceans, cabbage, cucumbers, squash, spinach, figs, cheese, wheat germ, milk, corn, turnips, nuts, eggs, onions, parsnips, leeks, peas, fish, prunes, raisins, bran, tomatoes, etc.

Iron
Iron helps you to grow. Sources - Apricots, almonds, asparagus, beets, wheat, cereals, cabbage, watercress, dates, spinach, strawberries, lettuce, lentils, molasses, potatoes, blackberries, hazel-nuts, eggs, onions, parsley, prunes, currants, roast veal, tomatoes, etc.

Copper
Copper develops your bones. Sources - Banana's whole cereals, mushrooms, dates, eggs, etc.

Magnesium
Almonds, banana's, beets, carrots, celery, mushrooms, cabbage, dates, spinach, black figs, raspberries, roquefort cheese, wheat germ, green beans, milk, lettuce, corn, honey, onions, oranges, grapefruit, peaches, dandelions, pears, pollen, prunes, apples, radishes, dried raisins, greens, etc.

Zinc
Garlic, pineapple, asparagus, bananas, carrots, cabbage, cucumbers, spinach, figs, strawberries, wheat germ, green beans, eggs, lettuce, beer yeast (barm), turnips, nuts, oranges, prunes, radishes, tomatoes, etc.

Iodine
Iodine is needed for the thyroid gland. Source - Sea-weed, pineapple, asparagus, carrots, mushrooms, cabbage, watercress, crustaceans, spinach, strawberries, lettuce, onions, turnips, potato peelings, peas, fish, radishes, tomatoes, etc.

PROTEINS, VITAMINS, and MINERALS are very important for the development of your body. The most important vitamins for growth are as follows:

Vitamins	**Food Sources**	**Functions**
Vitamin A	Animal liver, milk, yellow and green vegetables such as carrots and broccoli	Converted to retinal; essential for growth and differentiation of cells as well as normal vision
Vitamin B6	Animal liver, beef, kidney, green leafy vegetables like cabbage	Properly assimilates protein and fat; works as a natural diuretic

Vitamins	Food Sources	Functions
Vitamin B12	Cheese, animal liver, kidney, pork and beef	Forms and generates red blood cells; increase energy and promotes growth
Vitamin C	Citrus fruits, tomatoes, berries, cauliflower and green leafy vegetables like cabbage	Helps synthesis of collagen and other intercellular substances; formation of bone matrix and tooth dentin, intercellular cement and metabolism of several amino acids
Vitamin D	Egg yolk, fish oils, milk, butter, and margarine	Promotes calcium absorption from digestive tract; essential for normal growth and maintenance of bone
Vitamin E	Wheat germ, eggs, soy beans, green leafy vegetables such as spinach and broccoli	Supplies oxygen to the body cells; essential for virility; prevents cholesterol deposits in arteries
Vitamin K	Egg yolk, fish, animal liver, soybean, and green vegetables	Aids in proper blood clotting, helps prevent internal bleeding and haemorrhage

Minerals are important because they make up a large part of your bones and thus can directly affect the growth of your bones. The most important vitamins for growth are:

Vitamins	Food Sources	Functions
Calcium	Milk, dairy products, fish, green leafy vegetable	Important component of bones and teeth; essential for normal blood clotting; helps normal muscle nerve function
Chromium	Meat, clams, brewer's yeast, shellfish	Aids in growth process; helps prevent and lower high blood pressure
Iron	Animal liver, beef kidney, egg yolk, cereals, clams and	Aids growth; helps form haemoglobin in blood; aid for good red meat skin tone
Phosphorus	Meat, milk, dairy products, fish, eggs, and cereals like nuts, seeds, and whole grains	Structural component of bone; performs more functions than any other mineral; required for healthy bones and teeth; necessary for energy metabolism
Magnesium	Apples, grapefruits, lemons, seeds, nuts, yellow corn and dark green vegetables	Aids in bone growth and the function of nerves and muscles; aids in the regulation of blood pressure and water balance in cells
Manganese	Egg yolks, whole-grain cereals, green vegetables	Aids in cartilage and bone formation, necessary in energy metabolism
Zinc	Milk, yoghurt, meat, some seafood, brewer's yeast and pumpkin seeds	Aids for growth and repair of tissues. Necessary for cell division, growth, wound healing and proper functioning of the immune system
Iodine	Salt, kelp, all seafood, onions, and vegetables grown in iodine rich soils	Aids the regulation of thyroid hormones needed for normal growth and development

The most important mineral is calcium. Be aware that some common foods and drinks can act as calcium inhibitors and stunt growth. Those calcium inhibitors include coffee, soft drinks refined sugar, concentrated sweetener, excessive salt, excessive fats, alcohol, and cigarettes. Stop or reduce the consumption of these foods and drinks if you want to grow taller.

Therefore, the correct regular diet for you to grow taller should be mainly consisted of protein rich food such as fish, unsaturated meat, eggs, milk, and legumes; vitamin rich food such as fruits, vegetables, and animal liver; mineral rich food such as milk, dairy products and seafood.

Sleep

Sleep is the condition that your mind entrusts to repair, remove, and replenish your body. It also regulates your body's ability to grow. Therefore, it makes sense to put yourself in an ideal sleeping environment so that you can reap from its growth enhancing rewards. You may be surprised to know that we are taller in the morning than we are at night. By virtue of the law of gravity, our bodies in the standing position, are attracted toward the ground. By the end of the day, the disks in the spine are compressed by the weight of the body. During the night, the spinal column is in a relaxed and spread out position.

Be aware of this fact and use this time to stretch out properly. Rise at six, lunch at 10, dinner at six, sleep at 10, makes man live ten times ten. The need for sleep is inherent in all humans. We can’t live without it. A lack of sleep for either children or adults can bring on serious consequences.

A need for sleep

Sleep is considered to be the cheapest medicine. People who are overworked or who are really sick need sound sleep above all else. Very often, there is nothing better to combat sickness than sleep. Sleep builds up your strength, it recharges the energy level of the central nervous system.

It relaxes the bones, the cartilage and the muscular tissues. Fatigue leaves your body during sleep. Toxins are eliminated through the pores of the skin. Hence the necessity for a refreshing morning shower. A well-rested person can work at full potential and work longer. A rested person also looks better and brighter.

Advice to grow taller even when sleeping

It is during deep sleep that growth hormone does its job of thickening and lengthening your bones. So appropriate sleeping time (not the longer, the better) and correct sleeping posture is very important for your body to grow. Sleep is defined as a natural periodic state of rest for the mind and body, in which the eyes usually close and consciousness is completely or partially lost, so that there is a decrease in bodily movement and responsiveness to external stimuli.

During deep sleep, growth hormone produced by your pituitary gland is released into your blood stream and travel through your body and causes the thickening and lengthening of your bones. Therefore, you should achieve "deep level" sleep on a daily basis in order to coordinate your affords of exercises and proper diet. The following are some helpful tips on how to easily achieve deep level sleep.

- Sleep in a comfortable and firm mattress. If it is not firm enough, place a sheet of plywood underneath the mattress. Sleeping on a hard surface will align your spine in the natural position. This will lengthen your spinal, and also allow growth hormone to easily travel across the body.

- Sleep in a room that is dark, quiet and fresh smelling. Do not expose yourself to bright light while you are sleeping. Light will make your brain stay awake.

- It is important to sleep in a well ventilated room. Don't be afraid to open a window, even in winter. It is better to put on an extra woollen blanket than to breathe in stale air. The amount of clean oxygen rich air that you breathe has an effect on your growth. Poor air can prevent you from growing during sleep.

- Sleep with clean, soft, and comfortable clothes. Rough clothing can block the blood circulation and make you shift and turn many times during the night, thus prevent you from deep sleep. Remember your growth hormone can only work well when you fall into deep sleep.

- Keep your hands and feet warm. Scientific studies have shown that warm hands and feet will help induce REM (rapid eye movement) deep sleep. Cold hands and feet will keep you from deep sleep.

- Drink a big glass of water before going to bed and when you wake up; this will help clean out your system. Milk can also help you sleep. It contains an amino acid called tryptophan. Which produces the effect of a sedative. Do not consume any foods or drinks that contain caffeine, nicotine, or alcohol at least 4 to 5 hours before going to bed. Caffeine and nicotine are stimulants that will keep you from sleeping. Also, refrain from a large meal at least 3 hours before bed time.

- Do exercises during the day can help you sleep better at night.

- Take a hot bath before going to bed helps induce deep sleep because it cleans your body and relaxes tense muscles.

- Practice total relaxation and deep breathing for a few minutes before you go to bed.

- Relax from head to toe. Close your eyes and relax every part of your body. Do complete breathing exercises by following the three phases: (1) Inhale slowly and deeply through the nose for 3 to 5 seconds making sure that your stomach as well as your chest expand. (2) Hold your breath for another 3 to 5 seconds, tighten your stomach muscles lightly. (3) Exhale slowly and fully through the mouth and nose. This breathing exercise will help smooth your blood circulation and get your body ready to rest.

- Maintain a habit of sleeping at the same time everyday, including weekends. This will help you develop a regular rhythm for sleep. Your brain will send you "sleep signal" at about the same time every day, which can help you fall into deep sleep easier and faster.

- Each person has his/her own specific daily sleep requirement. It is not true that the more you sleep, the better it is for your growth. Too much sleep will cause your body to develop laziness and slow down your metabolism, thus increase the danger of gaining weight. On average, a young adult who is growing needs at least 8 hours sleep every day. Teens need 9 hours or more. However, this is just an average and may not apply to you precisely.

- The best way to figure out the exact amount of sleeping time you need is not to calculate it at all. Just sleep early every night. Do not use any alarm clock, and let yourself wake up naturally. Your body has its own biological clock that can determine the exact amount of sleep it needs. As long as you have good sleeping habit and do not break it (by forcing yourself to stay up too late or get up too early), your body will take good care of itself.

- Also, it is easy for you to detect if you get enough sleep each day. If you are energetic and do not feel sleepy or very tired the whole day, then you had enough sleep last night. Otherwise, you had better readjust your schedule and try to sleep longer.

- Sleep with appropriate posture is also very important for your growth during sleep. Sleep with correct posture can help you lengthen your spine and increase your height; sleep with incorrect posture can put strains on your neck, shoulders and back and stunt growth during sleeping.

- Sleep on your back with a flat pillow under your knees. This will align your spine properly and prevent any back aches caused by sleeping in a bent position. Raising your knees and feet slightly will help your brain get more oxygen rich blood. The greater amount of oxygen that your brain receives the higher the energy you will have to help yourself grow during sleep.

- Sleep on side, with your knees bent. This will effectively flatten the back. A flat pillow may be used to support the neck, especially if shoulders are broad.

- Do not use high pillow. While lying on your back with your head resting on a high pillow, your neck is bent forward and your back is arched in a very unnatural position. This will put strains on your neck, shoulders, and back, and also stunt growth since your spinal column is arched during most time of the night. Do not sleep face down. This will exaggerates swayback and strain neck and shoulders.

- "Early to bed, early to rise, makes a man healthy, wealthy and wise". Be in harmony with nature. The more we distance ourselves from nature the more we become unhappy and out of touch with ourselves.

Part 4
HOW TO LOOK TALLER

Posture

Good posture provides many physical and psychological benefits. It is an important component for back health and height increase. Good posture helps maximise your height not just because of the obvious reason that you are sitting and standing tall rather than slouching and slumping, but for other structural and physiological reasons as well.

The pelvis acts as a lever and directly influences our posture and stature. When the pelvis is carried too far forward, the condition is termed a Milted Pelvis. This condition directly robs you of extra height and is generally the result of a person with lack of stomach muscles and who usually has a large stomach.

Tilted pelvis

Curvature of the spine

Over time, gravity will take a toll on the body and cause spinal disc degeneration, muscle loss, and force the body to slump or slouch. By maintaining proper postural alignment you can significantly reduce the negative effects of aging as well as promote growth.

By consciously trying to stand straight and walk tall at all times, you can start to improve your posture and strengthen the relevant muscles to relieve unnecessary stress and compression on your discs. As a result, your height is maximised.

Good standing posture

One very basic way to improve your posture is by leaning against a wall. Keep your head, shoulder blades, buttocks and heels in contact with the wall. At the same time, use your muscles to pull back your neck, waist and knees to minimise the space between your body and the wall. There should be only slight gaps.

Check your standing posture

Good standing posture

Standing

1. Rest one foot on a low stool or box. Having one leg higher that the other straightens the small of the back and relieves a swayback tendency.

Rest one foot on a prop

2. If you are carrying a heavy load, shift the weight from one side to the other to reduce stress and strain on one side of the body and also to inhibit any tendency of scoliosis.
3. Avoid wearing shoes with heel lifts. In the long run, these shoes reduce your height as heels tend to tilt your pelvis forward and creates an exaggerated curvature of the lower back that reduces height. It also puts pressure on your discs and strains your lower back.

Sitting

1. Sit in a chair that provides firm and high back support.
2. Sit in a chair that allows your knees to be slightly higher than your hips, while your feet stays flat on the floor. You may place a stool or box under your feet to achieve the correct position.
3. Avoid sitting in soft chairs or sofas. If you do not have a choice, support your lower back with a small pillow.
4. Even with proper sitting posture, it is important to get up, stretch, and move around approximately 25 minutes or so.

Good sitting posture

Lying Down

1. Sleep on a firm mattress.
2. The best position to sleep is flat on your back with a small pillow supporting your neck or one or two pillows under your knees. This balanced position lengthens and relaxes the back muscles.
3. The second best position to sleep is on your side with hips and knees bent. A pillow should be placed between the knees to prevent twisting of the back and promote better alignment of the spine.
4. Do not sleep flat on your back with your legs straight as it promotes back spasms and increases swayback posture.
5. Do not sleep on your stomach. This arches the back and stresses the lower back. If you want to sleep on your stomach, place a pillow under your waist and bend one knee toward the pillow to prevent your lower back from arching. Do not use a pillow for your head.

Good sleeping posture

Good posture when sleeping on your side

Bending and lifting

1. When lifting an object, keep your back straight as you bend your knees and lower yourself to pick up the object.
2. Avoid bending from the waist with straight legs.
3. Place your feet wide apart, one foot slightly ahead of the other, for balance and support.
4. Do not twist your back when lifting.
5. Do not attempt to lift something too heavy. Get assistance from someone else.
6. Keep the object as close to your body as possible. The further an object is from the body, the more strain there is on the back discs, muscles, ligaments, and tendons.

Proper lifting and bending technique

Yoga exercises like the cobra, locust, bow and downward and upward facing boat engage the muscles srequired to improve your balance, lengthen the body and strengthen the back.

Appearance

By cleverly organising the visual elements of clothes and their design, you can manipulate the way your body is perceived and make yourself appear taller. To beat up your height disadvantages when you are on a job interview or a romantic date, follow these tips:

Hair style

Have the hair style that makes you appear taller. In order to appear taller, a hair style should be thin at the sides and higher up top, which can make you appear as much as an inch taller. Do not have any wide hair style. Also, a bald head can makes a person appear shorter.

Clothes

Vertical lines appear taller and slimmer. Horizontal lines appear shorter and wider.

- Avoid clothes with horizontal lines. Belts are horizontal so make sure you conceal it in your clothes. Avoid clothes with a tartan or checked pattern. Avoid cuffs that makes your legs appear shorter.
- Wear clothes with vertical lines or striping. Vertical lines or stripping make a person appear thinner, and thinness in turn gives impression of more height.
- Avoid wearing sharply contrasting clothes and pants together, these will easily expose the real length of your legs and make you look shorter.
- Wear clothes with shoulder pads. Shoulder pads make your shoulders appear broader and your whole body slender.
- Wear shoes that will make you appear taller. If you are a female, this should be easy since you can find a lot of female shoes with 2 or 3 inches' heels. For males, wear shoes with thick soles to add the illusion of height.
- Avoid clothes that are made from heavy and bulky fabric. They add width and hence shorten the image visually.
- Wear cuffless pants to make the legs look longer.
- Wear a coat or jacket that is of the perfect length. They should end where the buttocks meet the legs.

Colour

- Match your pants' colour with your shoes colour to make the legs look longer.
- Lengthen your upper torso by wearing a belt that matches your top.
- Dark colours such as black, navy blue, and charcoal grey projects power and competency. Lighter colours make you appear more approachable. If you want a commanding and confident image, try wearing dark colours.

Part 5
GUIDELINES FOR EXERCISING

The tips and strategies in the following pages are the most effective techniques that will help you realise your height increasing goals. There are hundreds of different ways to grow taller. You will learn which ones are the easiest, fastest and most effective.

Preparation Notes

The exercises included in this book will stimulate overall growth and height gain, function to structurally lengthen the spinal column, improve posture, and straighten any excessive curvature of the spine. By performing the exercises, you will also benefit from greater health, stronger back and abdominal muscles, increased flexibility, and the alleviation and prevention of lower back pain.

These exercises are illustrated, with simple and easy to understand instructions. These exercises are safe, effective, and easy to do by people of all ages and fitness levels. The exercises require no special equipment or apparatus and can be done in the privacy of your own home.

Here are a few things to bear in mind before exercising:

1. Wear loose clothing that does not restrict movement.
2. Stretching exercises should be performed bare-footed.
3. Empty your bladder and bowel before you begin.
4. Warm up before exercising.
5. Perform the stretching exercises slowly and smoothly in a controlled manner. This applies to going into a position and coming out of it.
6. Stretch to a point and hold for 30-seconds. Do not worry if you cannot hold for 30 seconds when you have just begun. As your muscles become more flexible, you will gradually be able to hold for longer periods.
7. Do not strain yourself beyond the point where you feel pain. If any exercise causes your legs to tingle, feel numb, or weak, discontinue the exercise.
8. Relax while stretching. Only a relaxed muscle will allow itself to be stretched.
9. Breathe naturally and smoothly.
10. Be patient and persistent. Do not rush or force yourself in any way.

Breathing

Before you begin any exercise, you need to learn how to breathe properly. Here are the importance of proper breathing.

a) prevent illness (colds, coughing, bronchitis, tuberculosis, etc.)
b) feel well
c) rid your lungs of impurities and waste (carbon monoxide, lactic acid etc.)
d) carry oxygen to millions of cells (it has been proven that deep breathing carries ten times more oxygen to your organs)
e) combat fatigue
f) increase your energy level
g) calm your nerves
h) sleep better
i) add colour to your complexion as proper breathing increases blood circulation

To increase your height, it is important that your blood is oxygenated as blood provides nourishment to your bones. Regular breathing will also purify your blood. Your lungs are likened to balloons. When pressure is exerted on them, the air must leave. Otherwise, your breathing is blocked and it could cause you harm.

How to breathe properly while exercising

There are three phases to breathing:

1. Inhaling - take in air into your body through the nose
2. Retaining - hold your breath inside your body
3. Exhaling - blow out air from your body through the mouth

Perform your exercises in a well ventilated room so that you will fill your lungs with unpolluted air. For each exercise, breathe deeply. The chart below illustrates the amount of time you could apply to each stage of breathing.

INHALING	RETAINING	EXHALING
4 seconds	3 seconds	12 seconds
5 seconds	3 seconds	15 seconds
6 seconds	3 seconds	18 seconds
7 seconds	3 seconds	21 seconds

Exhaling is usually longer than inhaling because it is essential to empty all air from your lungs. Try this simple experiment. Pinch your nose to shut the nasal passage while keeping your mouth shut. Now open your mouth and you will notice that you still have air in your lungs to exhale. It is a good habit to empty your lungs.

Breathing exercises

The abdominal breathing exercises will be illustrated as it is considered as the best one.

1. Lying Down

- Lie on your back and stretch completely. Place one hand on your stomach. For better concentration, close your eyes. This exercise is relaxing and can help you rest better.
- Inhale deeply through your nose (you will feel your stomach being filled with air).
- Hold your breath.
- Exhale slowly through your mouth. Your stomach will deflate.
- Contract your stomach to force any remaining air.

2. Standing Position

- Raise your arms from your side to an upward position, parallel to the floor and form a T.
- Inhale through the nose for four seconds.
- Stretch your arms straight up while holding your breath for three seconds.
- Exhale slowly through the mouth while lowering your arms.
- Clasp your hands behind your back, pushing your torso forwards for 12 seconds.
- Push out all the air from your lungs by contracting your stomach muscles.

3. Sitting Position

a) Getting into position

Sitting Position

Self-back massage

Remove your shoes and place your feet on the floor. Sit up straight and tall, distributing your weight evenly. Rest your arms on your thighs or by your side, palms up, thumb and index finger touching. The palms-up position rolls your shoulder joints open and focuses your energy upward. The thumb and index finger connection creates a balance between mind and body.

b) Breathing with shoulder roll

Gently tuck in your shoulders forward and up. Exhale slowly, rolling your shoulders backwards and relaxing them down. Do this three times continuously. Imagine your energy floating up your spine, through your neck and to the crown of your head as you inhale, and then back down as you exhale. Relax your jaw and the hollows under your cheekbones. Acknowledge your thoughts, inhale and then release them as you exhale. Stay conscious and aware.

c) Deep breathing

Inhale deeply - filling your belly, lower lungs, mid lungs, upper lungs and chest. Slowly push the air out of your upper lungs, mid lungs, lower lungs and belly. Repeat five times with your eyes closed.

d) Breathing with head bowed

Keeping your eyes closed, bring your chin to your chest. Take three long breaths and then slowly bring your neck to its upright position by uncurling it one vertebra at a time. There are seven vertebrae in the neck.

When you are walking or climbing the stairs, you could practice these breathing exercises. When taking a walk, inhale through the nose for 6 steps, hold your breath for 3 steps and exhale through your mouth for 18 steps. Repeat once you have finished one all three phases.

If you feel weak or fatigue at work, do one of the breathing exercises. You will feel invigorated! Experts have stated that you will improve your health if you do ten deep abdominal breathing exercises. Breathing will help you focus and reduce your stress levels. Remember - Breathe Well, Live Well!

Self-Back Massage

Bring a tennis ball to work. Sit tall in your chair, place the tennis ball on the painful area and lean into the chair. Pressing against the ball, begin to breathe long and deeply. Take ten or more breaths. Repeat if necessary.

Part 6
STRETCHING

Practice all kinds of stretching, including Yoga, Pilates or just simply trying to reach your feet while standing. You should stretch and breathe slowly for best results. Cartilage is a firm yet elastic substance. With the appropriate exercises, you can stretch the cartilage between:

- the vertebrae in the spinal column,
- the thigh bones and,
- the tibia or shin bones.

You can grow by developing your cartilage that will in turn increase the space between the vertebra.

Without proper exercise, the cartilage becomes soft and the bones eventually rub against each other. The spinal column is like a coil. By stretching it up and down, forwards and backwards, side to side, you can become taller.

Stretching exercises in bed

Do the following stretching exercises in bed at night and in the morning.

1. Leg Stretch

- Lie on your back, stretch out your right leg (and then left leg once completed).
- Count to five.
- Imagine you are pushing a box with the flat of your foot.
- Repeat the same exercise but on your stomach.

2. Hip Stretch

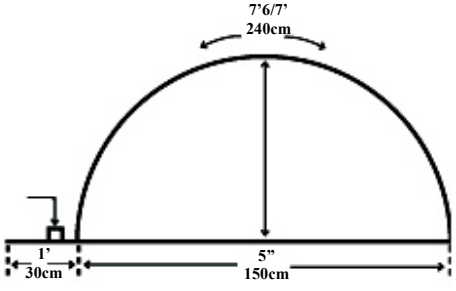
- Lie on your back and bring your knees to your chest, pulling them with your hands.
- At the same time, exhale through the mouth and tighten your stomach muscles.
- Inhale through the nose as you return your feet to the mattress.
- Variation (the rocker): Bring your knees to your chest with your hands and rock yourself.

Half Moon Bench

The rounded bench has proven to be a great apparatus for growth. By using this bench, you will expand your thoracic cage. It will develop your shoulders and make your spinal column more supple. You can build this half-moon bench to benefit from its effectiveness. These are the recommended dimensions:

Measurements

Width	:	12 inches (30cm)
Length	:	6 feet (1.80m)
Radius	:	2 ½ feet (75cm)
Half circumference	:	7 6/7 feet (2.40 m)
Diameter	:	5 feet (1.50m)



Half Moon Bench

Do at your own risk. Do not overstretch your body. It is important to know and adhere to your limits.

Yoga & Pilates

There are a variety of yoga and pilates exercises we can do. We will be focusing on basic, posture exercises and hip, lower/upper back stretches. An important part of yoga and pilates is breathing, so we will also focus on that area. These exercises will get your spine right, by aligning your spine correctly and prepare it for elongation.

1. Sit / Easy Position - Sukahasana

This is a starting position that helps focus awareness on breathing and the body, strengthen the lower back and open the groin and hips.

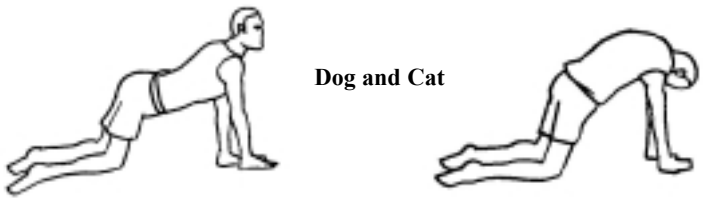
- Sit cross-legged with hands on knees.
- Focus on your on your breath.
- Keep your spine straight and push the sit bones down to the floor.
- Allow the knees to gently lower.
- If the knees rise above your hips, sit on a cushion as it will help support your back and hips.
- Take 5 - 10 slow, deep breaths.
- On the next inhale, raise your arms over your head.
- Exhale and bring your arms down slowly.
- Repeat 5-7 times.

Sit / Easy Position

2. Dog and Cat

This will increases your spine's flexibility. These are two poses, one following the other.

- Begin on your hands and knees.
- Keep your hands just in front of your shoulders, your legs about hip width apart.
- As you inhale, tilt the tailbone and pelvis up, and let the spine curve down, dropping the stomach low, and lift your head up.
- Stretch gently.
- As you exhale, move into cat by reversing the spinal bend, tilting the pelvis down, drawing the spine up and pulling the chest and stomach in.
- Repeat several times, flowing smoothly from dog into cat, and cat back into dog.



Dog and Cat

3. Head to Knee - Janu Shirshasana
This exercise stretches and opens your back and hamstrings, thus improving flexibility.

- Sit on floor with legs extended in front of you.
- Bend one leg, bringing the heel of the foot as close to the groin as possible.
- You may want to place a pillow under the bent knee for comfort.
- Make sure your buttocks are firmly grounded on the floor and that your spine is straight.
- Turn your body slightly so you face out over the extended leg.
- Inhale and raise your arms over head.
- Exhale and begin to move forward slowly. Try to keep the back as straight as possible.
- Instead of bending at the hips, focus on lifting the tailbone and rolling forward on your buttocks.
- Inhale and lengthen the spine.
- Exhale and roll forward, however slightly.
- To get a bit more forward movement, engage your quadriceps (high muscles) as you move forward. This releases the hamstrings, giving you a bit more flexibility.
- When you've moved as far forward as you can, lower the arms and grasp your foot, or leg.
- Hold the position for a moment and breathe.
- On the next exhale gently pull yourself forward.
- Go slowly and remember to keep the back straight.
- When done, straighten up and do the other side.

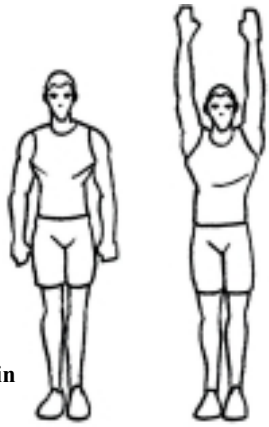

Head to Knee


Cobra

4. The Cobra - Bhujangasana
This exercise stretches the spine, strengthens the back and arms, opens the chest and heart.

Step 1
- Lay down on your stomach. Keep your legs together, arms at your side, close to your body, with your hands by your chest.
- Inhaling, slowly raise your head and chest as high as it will go.
- Keep your buttock muscles tight to protect your lower back.
- Keep your head up and chest and heart out.
- Breathe several times and then come down.
- Repeat as necessary.

Step 2
- Follow the steps above.
- When you've gone as high as you can, gently raise yourself on your arms, stretching the spine even more.
- Go as far as you are comfortable.
- Your pelvis should always remain on the floor.
- Breathe several times and come down.



Mountain

The Triangle

5. Mountain - Tadasana

This exercise improves posture, balance, and self-awareness.

- Stand with feet together, hands at your sides, eyes looking forward.
- Raise your toes, fan them open, then place them back down on the floor.
- Feel your heel, toes and ball of your foot all in contact with the floor.
- Raise your chest up and out.
- Raise your head up and lengthen the neck by lifting the base of your skull towards the ceiling.
- Stretch the pinky finger on each hand downward, then balance that movement by stretching your index fingers.
- Push into the floor with your feet and raise your legs, first the calf and then the thighs.
- Breathe. Hold the posture, but try not to tense up.
- As you inhale, imagine the breath coming up through the floor, rising through your legs and torso and up into your head.
- Reverse the process on the exhale and watch your breath as it passes down from your head, through your chest and stomach, legs and feet.
- Hold for 5 to 10 breaths, relax and repeat.
- On your next inhale, raise your arms head (Urdava Hastasana) and hold for several breaths.
- Lowers your arms on an exhale.

6. The Triangle - Trikonasana

This exercise stretches the spine, opens the torso, improves balance and concentration.

- Start by spreading your legs 3 - 4 feet apart, feet parallel.
- Turn your left foot 90° to the left and your right foot about 45° inwards.
- Inhale and raise both arms so that they're parallel with the floor.
- Exhale, turn your head to the left and look down your left arm toward your outstretched fingers.
- Check that your left knee is aligned with your left ankle.
- Take a deep breath and stretch outward to the left ankle.
- Take a deep breath and stretch outward to the left, tilting the left hip down and the right hip up.
- When you've stretched as far as you can, pivot your arms, letting your left hand reach down and come to rest against the inside of your calf, while your right arms points straight up.
- Turn and look up at your hand. Breathe deeply for several breaths.
- Inhale, and straighten up. Exhale, and lower your arms.
- Put your hands on your hips and pivot on your heels, bringing your face front.
- Repeat the posture on the other side.

7. Warrior II - Virabhadrasana II

This exercise strengthens the legs and arms. It also promotes balance and concentration.

- Begin with the mountain pose with feet together and hands at side.
- Part our legs 4 - 5 feet apart.
- Turn your right foot about 45° to the left.
- Turn your left foot 90° to the left so that it is pointing straight out to the side.
- Slowly bend the left knee until the thigh is parallel with the floor, but keep the knee either behind or directly over your ankle.
- Raise your arms over head.
- Slowly lower them until your left arm is pointing straight ahead and your right arm is pointing back.
- Concentrate on a spot in front of you and breathe.
- Take 4 or 5 breaths, lower your arms, bring your legs together.
- Reverse the position.

Warrior II

Spinal Forward Bend or Extension

8. Spinal Forward Bend or Extension - Uttanasana II

This exercise stretches the legs and spine, as well as resting the heart and neck.

- Begin with the Mountain pose or Tadasana.
- Inhale and raise the arms overhead.
- Exhale, bend at the hips, bring the arms forward and down until you touch the floor.
- Bend your knees if you're feeling stiff. Grasp your ankles or just leave your hands on the floor and breathe several times.
- Repeat 3-5 times.
- On your last bend, hold the position for 5 or 10 breaths.
- To come out of the pose, curl upward as if pulling yourself up one vertebra at a time, stacking one on top of another, and leaving the head hanging down until last.

Variations

a. Follow the instructions for the basic pose described above. Instead of holding the pose for several breaths, come up on the inhale. Extend your arms forward as your rise until you are standing straight and your arms are overhead. Exhale and bend forward. Repeat the process 5 times.
b. Go into the pose and take 3 breaths. Inhale and raise your head, but keep your hands on the floor. Hook each index finger around each big toe, exhale and come down. Hold for several breaths.
c. Inhale and raise your head, again keeping your hands on the floor. This time slide your hands under your feet so that the tips of your toes are touching heel of your hands. Hold for several breaths.
d. After bending forward, fold your arms and hang for as long as is comfortable.
e. To come out of the pose, curl upward as if pulling yourself up one vertebra at a time, stacking one on top of another, and leaving the head hanging down until last.

9. Downward Facing Dog - Adho Mukha Svanasana

This exercise builds strength, flexibility and awareness, as well as stretches the spine and hamstrings.

- Start on your hands and knees.
- Keep your legs about hip width apart and your arms shoulder width apart.
- Your middle fingers should be parallel, pointing straight ahead.
- Roll your elbows so that the eye or inner elbow is facing forward.
- Inhale and curl your toes under, as if getting ready to stand on your toes.
- Exhale and straighten your legs; push upward with your arms. The goal is to lengthen the spine while keeping your legs straight and your feet flat on the ground. In the beginning it's okay to bend the knees a bit and to keep your heels raised.
- The important thing is to work on lengthening the spine. Don't let your shoulders creep up by your ears - keep them down.
- Weight should be evenly distributed between your hands and feet.
- Hold the position for a few breaths. Come down and exhale.
- Repeat several times, synchronizing with your breath: up on the exhale and down on the inhale.

Downward Facing Dog

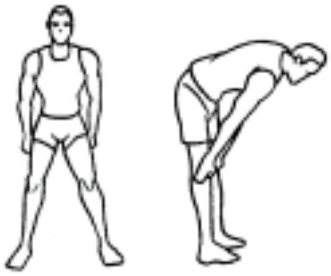
10. Standing Forward Bend

This exercise lengthens the spine and relieves disc compression. It also stretches the calves, hamstrings, hips, back, and neck.

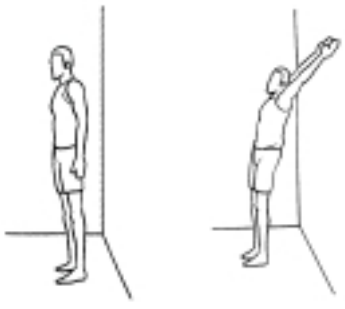
- Stand with legs about 18 inches apart and place your palms on the back of your thighs.
- Without bending your knees, slide both hands down the sides of your legs as far as you can.
- You will have to bend forward to perform this exercise, but make sure to maintain contact between your palms and your legs.
- The further you go down, the more strain there will be on the back of your knees.
- Do not bend your knees.

Variation

a) Place your hands on your buttocks and move them down the back of your legs. Bend your body backwards to enable you to perform this variation. Perform slowly for five times.



Standing Forward Bend



Good Morning Stretch

11. Good Morning Stretch

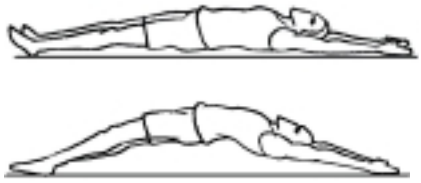
This exercise stretches and lengthens the thoracic and cervical spine.

- Stand straight with back to the wall and feet flat on the floor. Your feet should be about 24 inches away from the wall on the first time you perform this exercise.
- On the following days, increase your distance from the wall 3 additional inches each time.
- Stretch the arms forward, upward, and then backwards over your head until your fingers touch the wall, move a few more inches away from the wall.
- You should have to stretch your body to enable you to touch the wall.
- After your fingers achieve contact with the wall, return to the original positions by bringing the arms back over the head and then down.
- Repeat this exercise 7 times.
- Keep a careful record of the distance from the wall the last time you performed this exercise so you can increase this distance by 3 inches each different day you perform it.

12. The Fish

This exercise strengthens the back and cervical region of the spine.

- Lying flat on your back with your arms by your side, raise your arms and bring them straight back over your head until they are stretched out on the floor, pointing away from your head.
- Resting all of your weight on your outstretched arms, your shoulder, and on your heels, slowly raise the back, hips, torso, and upper legs off the floor.
- Stretch your body up as high as you can. Hold that position for a few seconds, and return to the original position.
- Perform this exercise 5 times.

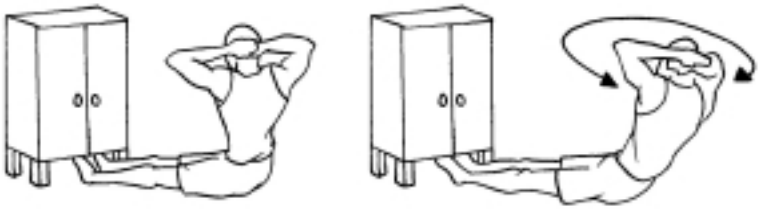


The Fish

Squats

13. Squats

- In the standing position, feet apart slightly, hands on hips, body straight and erect and head up, slowly bend the knees while keeping the rest of your body straight and erect, and come to a squatting position with the knees ahead (not spread apart).
- As you slowly bend your knees, extend your arms straight ahead, stretching the arms and fingers to their fullest extent.
- Hold this position for a few seconds before slowly returning to the original position.
- Repeat this exercise 10 times.

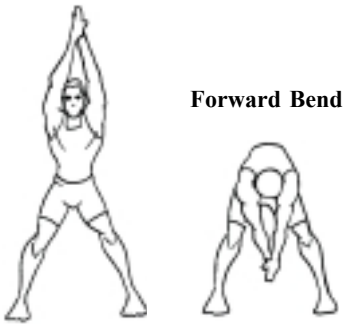


Trunk Twist

14. Trunk Twist

This exercise stretches and strengthens the spine and abdominal muscles.

- Sit on the floor with your legs extended straight out in front.
- Place your feet under an article of furniture (chair, table or sofa) to keep them from moving during the exercise.
- Interlock your fingers behind your neck, and start the exercise.
- Slowly revolve your trunk in a large circle, bringing your upper torso forward, to the right, backward and to the left, as far as possible.
- Rotate your body in as wide a circle as possible, and then reverse directions.
- Repeat this exercise for 30 seconds, rest 15 seconds, repeat 30 seconds, rest 15 seconds, etc, for a period of six 30 second units.

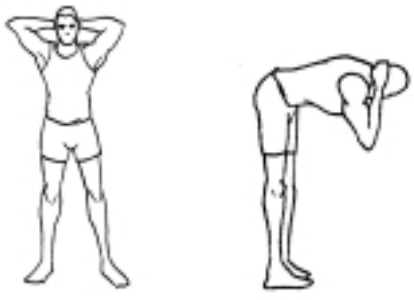


Forward Bend

15. Forward Bend

This exercise stretches the calves, hamstrings, hips, back, and neck. It also lengthens the spine.

- In the standing position, with your legs spread widely apart, raise both hands straight overhead and overlap your hands.
- Bend forward and touch the floor between your legs, then return top the original position.
- Perform this exercise 10 times.
- You will notice that the wider your legs are spread apart, the easier it will be to touch the floor.
- As you progress in this and the other exercises, you should bring your feet closer together so that it will be more difficult to touch the floor with your fingers.
- If you can touch the floor with your feet close together, you should then strive to touch the floor with your palms.



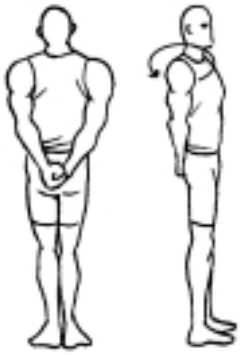
90° Forward Bend

16. 90° Forward Bend

This exercise strengthens the back and stretches the hamstrings.

- In the standing position, feet spread slightly apart, hands behind the neck with your fingers interlocked.
- Bend the body forward from the waist, without bending the knees, and try to bring your head down between your legs.
- Of course, it may be impossible to bring your head all the way down, but stretch your body as far as possible without straining yourself.
- Do not remove your hands from behind your head.
- Use your hands to help push your head down further.
- When you have reached as far down as possible, return to the starting position.
- You will perform this exercise with more ease after one or two weeks.
- Perform this exercise 5 times.

Head to Chest



Shoulder Fan

17. Head to Chest

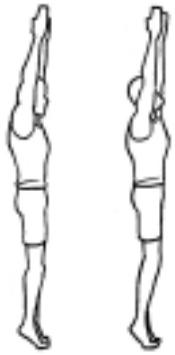
This exercise stretches and strengthens the neck.

- In the standing position, place your hands behind your head and interlock your fingers.
- Use the hand and arm muscles to push your head forward and down, and at the same time, utilise your neck muscles to resist this pushing motion.
- While exerting these opposing pressures, allow your head to be pushed forward until your chin rests on your chest.
- Relax the pressure on your head, and return it to its normal position.
- Repeat this procedure 10 times, then rest 10 seconds, and repeat the exercise 10 more times.

18. Shoulder Fan

This exercise corrects and prevents rounded shoulders, improves posture and relieves tension.

- In the standing position, head up high, arms at your side.
- Bring your arms backward and interlock your thumbs behind your back and below your waist. This is your starting position.
- Keeping your thumbs interlocked, and your arms always as straight as possible, bring your shoulders up, then back, then down, then forward, then up, back, down, forward, performing a circular motion and trying to extend the shoulders as far as possible in each direction.
- Perform this exercise slowly, always being aware that you are stretching your shoulders to their limit.
- Perform three sets of fan circular motions.
- You may take short rest between each set.

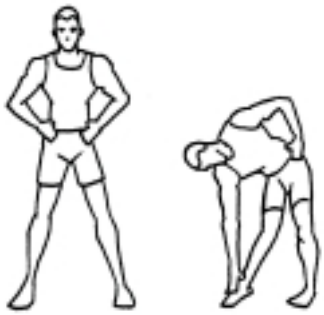


Spine Lengthener

19. Spine Lengthener

This exercise stretches and relaxes the entire spine, as well as the upper back, chest, shoulders, and arm muscles.

- Stand upright with your arms by your side.
- In one smooth movement, raise your heels so that you are standing on your toes, and swing both arms towards the sky as high as you can possibly extend your arms.
- Hold this position, with your arms extended straight up and reaching even higher and higher.
- While in this position, bend your neck and head backwards as far as possible.
- Hold this position for a few seconds before returning to the starting position.
- Perform this exercise ten times.



Twisting Triangle

20. Twisting Triangle

This exercise will increase the flexibility of your spine while stretching the upper back, lower back, hip flexors, and hamstring muscles.

- In the standing position, spread your feet apart about 12 inches, hands on hips.
- Raise the right hand, bend forward from the waist without bending the knees, and attempt to touch your left toes with the right hand, while keeping the left hand on your hip.
- If you cannot touch your toes, do not be disappointed as you should be able to achieve this after two or three weeks.
- Perform the same exercise with the left hand and attempt to touch the toes on your right foot. Alternate these attempts with the left and right hands to touch the toes on the opposite foot.
- Perform this exercise twenty times, alternating your hands each time.
- Remember the purpose of this exercise is to stretch, so do not be lazy. Try to come as close as possible to touching your toes.

Double Legged

Forward Bend

21. Double Legged Forward Bend

This exercise stretches the hamstring and back muscles. It also eases spinal compression.

- Sit on the floor; legs stretched forward, hands on hips.
- Bend forward, with arms stretched forward and try to touch your toes. You may not achieve this right away, but with frequent practice, you soon will.
- Repeat this exercise 5 times, with both hands, and then spread your feet slightly apart and with alternate hands, one at a time, try to touch the toes on the opposite foot.
- Repeat this 5 times with each hand.

Elbow to Knee

22. Elbow to Knee

This exercise will elongate your spine and limbers the lateral trunk and back.

- Use your own judgment about the positioning of your body so you can obtain the maximum benefit.
- Sit on the floor, with your knees bent and the soles of your feet flat on the floor.
- It is preferable to have your feet spread apart, and your knees bent as little as possible, the degree of bend, and the distance apart will depend on you.
- Clasp your hands together, behind your head, and extend your elbows forward.
- Lean forward, and touch your left elbow to your right knee. If you can perform this movement with little or no exertion, your knees are bent too much and your legs are not spread wide enough apart.
- After continued practice, you must reduce the degree of the bent knee, and spread the legs wider.
- After you touch your elbow to the knee, return to the original position, and touch your other elbow to the opposite knee.
- Repeat the exercise, 5 times with each elbow. Alternate elbows with each touch.

Leg Scissors

23. Leg Scissors

This exercise will stretch the lower and middle back muscles and hips.

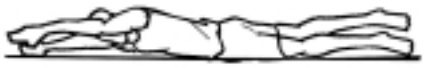
- Lie flat on your back on a firm surface, and not a soft mattress.
- Place your hands palms down underneath your buttocks and rest your weight on your hands.
- Without bending your knees, lift both legs straight up, and spread them apart as far as you can.
- Continue this motion back and forth, first spreading the legs as far apart as you can, and then bringing both legs back in the other direction, crossing them, as far as possible.
- Perform this exercise 10 times, rest your legs, and perform it another 10 times.

Backward Bend

24. Backward Bend

This exercise stretches and lengthens your spine.

- Lie flat on your back, on a firm surface, arms stretched towards your toes.
- Place your palms flat on the floor.
- Keeping both feet together, raise them upwards and bring them over your head until your toes touch the floor behind your head.
- Use the palms of your hands on the floor for extra leverage to lift your legs up and over your head, and to help raise your hips off the floor.
- The first few days you perform this exercise, it is not absolutely necessary to have your toes touch the ground.
- However, without over-exerting yourself, bring your toes as close as possible to the ground.
- Pause when your toes touch the floor, and slowly bring your legs back to the original position.
- Perform this exercise 5 times.



Dry Land Swim

25. Dry Land Swim

This exercise will extend and strengthen your lower back.

- Lie on your stomach and raise your left arm and your right leg.
- Hold for 1 second, then alternate with your left leg and right arm.

Additional Tips

1. Wear ankle weights and wrist weights while performing this exercise for more resistance.
2. Increase the number of holds up to 20 seconds as you progress.
3. Try holding for 4 seconds.

The Corpse

26. The Corpse

This exercise relaxes and refreshes the body and mind, relieves stress and anxiety, and quiets the mind. Possibly the most important posture, the Corpse, also known as the Sponge, is as deceptively simple as Tadasana, the Mountain pose. Usually performed at the end of a session, the goal is conscious relaxation. Many people find the "conscious" part the most difficult because it is very simple to drift off to sleep.

- Begin by lying on your back, feet apart, arms at your sides with palms facing up.
- Close your eyes and take several slow, deep breaths.
- Allow your body to sink into the ground. Try focusing on specific part of your body and willing it to relax.
- For example, start with your feet, imagine the muscles and skin relaxing, letting go and slowly melting into the floor.
- From your feet, move on to your calves, thighs and so on up to your face and head.
- Breathe and relax.
- Stay in the pose for at least 5-10 minutes.

Hip & Lower Back Stretches

These exercises will make the back limber & flexible, whilst stretching the spine.

Cats Cow from Chair

Spinal Twist

Lower Back Stretch with Shoulders

1. Cats Cow from Chair

This is a starting position that helps focus awareness on breathing and the body, strengthen the lower back and open the groin and hips.

- Sit with your spine straight and both feet flat on the floor.
- Feel both buttock bones pressing into your chair.
- Firmly grasp your kneecaps and hold them. Shoulders and arms are relaxed.
- Inhale slowly, pressing and lifting your chest forward and up.
- Exhale slowly rounding your back, pulling your navel in to your spine and curling your shoulders forward.
- Repeat until your body feels relaxed and loose.

2. Spinal Twist

- Sit with your spine straight and both feet flat on the floor.
- Place your left ankle on top of your right knee.
- Breathing long and deep, slowly stretch your upper body over your left leg, leading with the crown of your head.
- Let your arms hang to the ground or rest them at your sides.
- Relax your neck.
- Take five to ten deep, long breaths.
- Listen to your thoughts and release them with each exhale.
- To complete this posture: round your back, uncurling each vertebrae.
- Release your left leg and repeat on the other side.

3. Lower Back Stretch with Shoulders

- Do the lower back stretch, remembering to breathe long and deep.
- Rest your hands behind your lower back and interlace your fingers.
- Squeeze the heels of your hands and shoulder blades. Relax your neck.
- Slowly raise your interlaced hands behind you, up towards the sky.
- Breathe deeply into your chest.
- Take five to ten deep breaths.

Neck & Shoulder Stretches

These exercises will help improve your posture, as well as stretch the upper back muscles.

Bowing Down to Yourself

Ear to Shoulder

1. Bowing Down to Yourself

- Sit with your spine straight, both feet flat on the floor.
- Gently bring your chin to your chest.
- Take three long, deep breaths.

2. Ear to Shoulder

- Sit with your spine straight, both feet flat on the floor.
- Inhale deeply.
- As you exhale, slowly roll your left ear towards your left shoulder.
- Inhale deeply and exhale slowly, rolling your chin back to your chest.
- Inhale deeply and exhale slowly, rolling your right ear to your right shoulder.
- Inhale deeply and exhale slowly, rolling your chin back to your chest.
- Do three or more sets.

3. Turkey Stretch

- Sit with your spine straight, both feet flat on the floor.
- Pretend there is a cord attached to the crown of your head gently pulling you up taller.
- Direct your gaze in front of your nose and bring your hand to your chin.
- Inhale deeply, resting your hand on your chin and exhale slowly, gently pressing your chin in to your neck.
- You should feel this stretch lengthening the back of your neck.
- Do three or more sets.

Turkey Stretch

Turkey Stretch & Turn

Shoulder Release

4. Turkey Stretch & Turn

- Inhale deeply, chin tucked to your chest, spine straight and tall, arms to your side.
- Exhale slowly as you turn to the right.
- Relax your shoulders and be sure to limit the stretch only to your neck.
- Inhale deeply and exhale slowly as you turn to the centre.
- Inhale deeply holding your turkey stretch with a straight spine.
- Exhale slowly as you turn to the centre.
- Do three or more sets.

5. Shoulder Release

- Sit with your spine straight, both feet flat on the floor.
- Arms by your side, palms facing inward.
- Inhale slowly rolling your shoulders up to your ear lobes.
- Exhale slowly rolling them back and down.
- Feel your spine lengthen.
- Do five or more full circles.

Inversion

Inversion has long been used to relieve back and neck pain by gently stretching the vertebrae using the person's own body weight. Gravity pull compresses our spine and that causes us to lose our height during the day. When you invert and relax, your body can stretch up to two inches. Muscles relax quite quickly in the fully inverted position, and the length of the spine measurably increases after only a few minutes. The lengthening effect is due to reabsorption of fluid into the centre of the discs and "Opposite" gravity force pulls the spine.

This is proven by the fact that astronauts grow taller in space. After a few days in space (a gravity-free environment) astronauts grew taller by two inches. During their weeks in orbit, their discs had continued to take moisture from the blood stream, but with no gravitational pull to squeeze moisture out, the discs remained plump, making their spines longer, and themselves taller.

Sleeping will reduce the gravitational pull effect to a certain extent. However, scientific experiments have shown that even during full horizontal sleep, our spine is still subject to 30% gravity pull. This explains why after a night's sleep, we can only regain up to one-inch in height and not two inches, as in the case of inversion.

Hanging upside down with special inversion boots will achieve better results than normal hanging bar as you are able to hang on much longer when doing inversion. Try doing this for a minimum of 15 minutes daily. You will also gain other benefits like improved blood circulation, better posture and alignment (which again is important for height increase) and body cleansing.

Ankle Weight Methods

Ankle weights strengthen and tone muscles in the lower body. (Such wearable weights should not be worn during high-impact aerobics or jumping.) This section highlights a few ways to incorporate ankle weights into your exercise regime.

1. Orphan Ankle Weight Plan

Running:
Afternoons or evenings, about 30 minutes of high impact running on solid concrete or asphalt.

Purpose: *Create bone Micro-fractures.*

Sitting with ankle weights:
Do this immediately after running. Sit on high chair with lower legs hanging. Wear 5-10 lbs. of weight per leg. Sit for a minimum of 30 minutes without moving legs.

Purpose: *Extend and repair some of the Micro-fractures created during running.*

Stretch Legs:
Stretch every major muscle that impedes tension forces on the bones. Stretch each muscle for 1-2 minutes depending on size and tightness of muscle.

Purpose: *Free muscles from their compression of the bone so that they don't oppose bone growth exercises.*

Leg exercises with ankle weights 1 hour before sleeping:
Wear ankle weights and swing each leg freely and very fast. This creates centripetal force on the leg. Do it in this order. (Left-50, Right-50, Left-100, Right-100, Left-50, Right-50)

Purpose: *Extend Micro-fractures and create great tension on legs. Make bones and muscles ready for sleeping with tension.*

Sitting with ankle weights before sleep:
Do this immediately after leg swinging exercises. Sit on high chair with lower legs hanging. Wear 5-10 lbs. of weight per leg. Sit for a minimum of 1 hour without moving legs.

Purpose: *Extend some of the Micro-fractures created during running for sleeping.*

Sleep with tension:
There are two ways this can be done.
a) Use Horizontal stretching device (elastic) to stretch entire body, mainly legs while sleeping. This method is less efficient but maintains proportion in legs and allows for relatively comfortable sleep.
b) Sleep with lower legs hanging with ankle weights over bed. This method is extremely efficient, but it only lengthens lower legs. Also can be uncomfortable to sleep with.

Purpose: *Extend and repair Micro-fractures to permanently lengthen bones.*

Variety Ankle Weight Method

Part 1

1. Stand with the feet about 18-20 inches apart and bear the weight of the body on the heels with the toes turned outward. Now turn the weight of the body on the toes with the heels outward. Stretch the leg as far outward as possible without strain. Alternate and repeat many times.
2. Raise one foot backward and bend toes forward and backward several times.
3. This time, bring the foot forward and twist the toes in a circular motion.
4. Raise on your toes as high as possible, making a few efforts to go still higher.
5. Stand straight up and twist the outside foot outward and the inside foot inwards, and perform a rocking motion.
6. Stand on the heels and roll back and forth and side to side.
7. Bend on one knee, and lunge right to left.

Part 2

1. It is advised to try to do at least 100 (high) kicks a day and then add 100 more every 2 weeks, stressing more on extension than speed.
2. While hanging, move your legs in the motion of riding a bicycle, being sure to stretch your legs to the limit.
3. Try walking with high leg movements, like trying to touch your knees to your chest.
4. This next exercise is basically like doing a free throw. You squat down as low as possible, then use the perfect extension like you're shooting a free throw, if done right it stretches the whole body.
5. Put one leg on a chair and then jump up, switching legs in mid-air. You basically use your leg strength to propel yourself.
6. This is a kicking exercise - you kick as high as possible and then without bringing your leg down, kick as many times in the same spot as possible.
7. Grab a small weight and then bend your knees, now squat and then by moving diagonally, extend the arms (with the weight) and extend as far left as possible.
8. Now hold the position and return to the starting position and do the same, going to the right side.
9. Now do the exercise when jumping
10. Sit on your shins and then jump to your feet, and as soon as you get to your feet, jump up reaching out as far as possible.
11. While hanging, pull your knees into your chest and then bring them behind you into your back, holding the position each time.
12. Pull-ups but you pull up with your head in front of the bar, then go down and pull up with your head behind the bar.
13. While hanging, pull your legs upward to your chest, then let them suddenly drop.
14. Lateral jumping over an object at least a foot high. These exercises are meant to be done with ankle weights that weigh around 3-5 pounds.

Kicking

Any forms of kicking exercise including front kick, snap kick, side kick or back kick, to a certain extent stimulate the cartilaginous portion of your knee. Even if your bones are fused, there may still be room for slight growth. Do 100 repetitions initially and increase at your own pace.

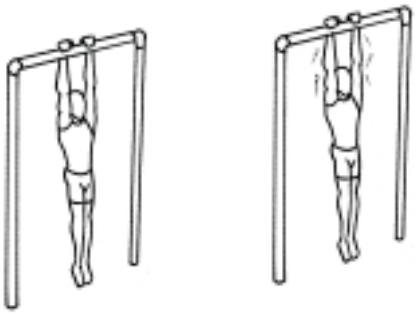
Kicking helps to grow the shinbones and the thighbones. It is perhaps one of the most hectic and tiring exercises of all, which helps you, grow taller. If you watch Thailand's kick boxers, they have extremely long legs. Almost all kick boxers have legs an inch or two longer than usual. You need a stable surface and maybe a pillar or something similar to support yourself and stand while kicking. A kicking bag is very highly recommended. Do not put ankle weights, shoes, or other heavy objects on your feet. Make sure there is ample fresh air in the exercising area.

Start by cycling for 15 - 20 minutes or doing leg rises for 5 minutes to loosen up your muscles. Once you have warmed up, start the routine. It consists of 1000 kicks on each leg in one day. So you are doing 1000 on left leg, and 1000 on the right leg. Break up your schedule to workout about half an hour in the morning and half an hour before bed. We suggest doing 20 reps on left leg, and immediately doing 20 on the right and then pause for 30 seconds after each 100 kicks. You will simply perform quick snap kicks and try to keep your feet near the floor.

Do not try to move your shin only. When you kick, let your shin move and try to 'extend' out your thighbone. The reason you should extend out your thigh bone, is because 1000 kicks put enormous stress on the knee joint. Instead, try to kick the shin and just milliseconds before the shin gets locked, extend out your thigh bone to absorb the shock. It will definitely feel weird at first, but after two to three months it will become second nature.

Hanging

Swinging on a height vertical bar can increase your height by itself by 1 even 2 inches. With hanging exercises, gravity would help pull your spine to elongate it. These exercises will strengthen the wrists, arms, and shoulders. It will also stretch and lengthen the entire spine.



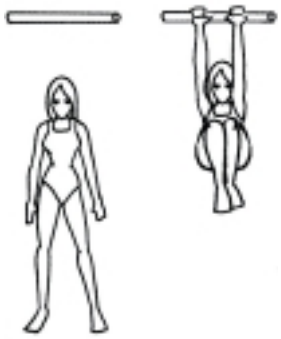
Bar Hang

1. Bar Hang

Bar hang onto a horizontal bar with both your feet off the ground for as long as possible. Start with 20 seconds and increase as your arms grow stronger.

- Latch onto the nearest pull up bar just before you put on your ankle weights. Grab the bar with both hands so your thumbs are touching each other and your palms are facing away from you.
- Let your body hang completely straight, with your toes pointing to the floor. (If the bar is too low, bend your knees until your feet clear the floor.)

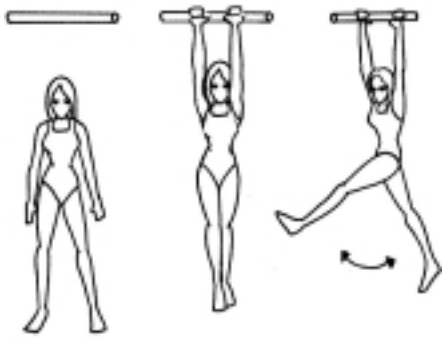
- Put your head between your arms so your ears are in front of your biceps, and try to squeeze your shoulder blades together.
- Hang for 10 seconds, drop off the bar and take a 10-second breather, then hang for 10 seconds again.
- Increase your hang time after a few sessions to 20 seconds with a 15-second break.
- Basically try to stretch on the bar for around 5-10mins. Take a break if you feel tired.



Hanging Knee-ups

2. Hanging Knee-ups

- Stand under a chin-up bar.
- Grasp the bar, hands almost touching, fingers facing forward.
- Your arms and body is fully extended. Exhale and bring your knees to your chest.
- Do not swing your legs up or use any momentum. Lift your knees up slowly and with control.
- Count to two and then inhale as you slowly bring your knees down.
- Once you are hanging fully extended, repeat the exercise as many times as you can in 1 minute.
- Return to standing position and shake your arms. Rest for 20-30 seconds.
- Repeat 3 more times.



Hanging Twist

3. Hanging Twist

- Stand under a chin-up bar.
- Grasp the bar, hands almost touching, fingers facing forward.
- Using your legs for momentum, slowly start twisting side-to-side.
- Twist in a gentle and controlled manner.
- Keep your head stationary at all times.
- Perform as many twists as you can in 1 minute.
- Return to standing position and shake your arms. Rest for 20-30 seconds.
- Repeat 3 more times.

Part 7
MENTAL EXERCISES

This section will play a very crucial role in helping you achieve your goals. It is important for you to keep an open mind and review this section. Your emotional state and mental faculty can greatly influence your height. You need to have faith and genuinely believe that you can still grow taller. Forget about what you read or what people tell you.

Every morning, after getting out from bed, say out loud to yourself that you have grown taller. And every night before you sleep, tell yourself that you are going to grow taller. Your mind would believe in what it chooses to believe and your body is going to react to your mind. Therefore, you need to programme your mind so that your body is in its best condition for growing taller.

Refrain from measuring your height everyday. Just stick to your plan and measure it only on a monthly basis. You will be surprised to see how much taller you have grown. Your mind is a powerful thing to waste. Scientists say most people use around fifteen percent of their total mental capabilities. Learning how to manipulate your mind is easier than you think.

Guided Imagery

Guided imagery has been described as creating images in the mind (sights, sounds, and feelings) to increase physical and emotional healing. Positive images activate the nervous system, sending neurohormones (chemical messengers) through the bloodstream to specific cells, where they trigger healing activity, according to Lucille Eller, R.N., M.S.N., principal investigator of Health Journeys HIV Guided Imagery Study at University Hospitals, Cleveland Clinic, Cleveland, Ohio.

Guided imagery has a documented effect on heart rate, blood pressure, respiratory rate, brain waves, body temperature, and more. It can enhance individuals' general state of health and well-being or used for specific goals, such as bone growth.

Imagery is the most fundamental language we have. When we recall events from our past or childhood, we think of pictures, images, sounds, pain, etc. It is hardly ever by words. Images aren't necessarily limited to visual but can be sounds, tastes, smells or a combination of sensations. A certain smell, for example, may invoke either pleasant or unpleasant memories for you.

It is estimated that an average person has 10,000 thoughts or images flashing through the mind each day. At least half of those thoughts are negative. Affirmations and visualisations are used by athlete everyday. It has been proven that just telling yourself "I can do this" can increase performance by 5%. Athletes use visualisation to enhance their performance, sometimes without realising it.

Remember, it is not the thing believed in, but the belief in your mind that brings about the result. All your experiences, events, conditions, and acts are produced by your subconscious mind in reaction to your thoughts. Negative thoughts will translate into negative experiences. Stop accepting false beliefs, superstitions, fears, and doubts. When you do this, there is no limit to the amount of growth you can achieve. Some of you may think that it impossible to tame all the thoughts that seep into the mind. We can dissolve negative thoughts through scientific prayer or affirmations. Your prayer or affirmation is answered according to the universal law of action and reaction.

Create a mental "movie" of your goal. Imagine what it would look like if you were 6'5" right now. Think of a fun experience you will have when you are tall, and imagine it in the form of a short commercial. Vividly focus on the joy on your face, imagine with great detail how mesmerised those around you are by your stunning new height. Do close ups of the faces, make the entire "movie" in black and white if that is more dramatic and emotional for you. Just think of the greatest, most emotional experience that will happen when you reach your goal and focus on that, 3-5 times a day, with affirmations and confidence to see it through.

Subconscious

Your subconscious mind is an incredible power that many have yet to develop to its full potential. Many people believe that we have a spiritual side and a subconscious side. We believe that our subconscious mind and our spirit are one. In order for you to truly understand just how powerful your subconscious mind is, you must first understand and accept that there is no such thing as coincidence. Nothing happens by chance. That means that nothing is predetermined or meant to be.

Your subconscious mind creates everything in your life based on the messages and info you sent. You are constantly sending messages and information to your subconscious mind and over half of those messages are useless or work against you. Then you wonder why things never get better no matter how hard you try.

Your messages to your subconscious mind are your thoughts, beliefs and actions. So if you constantly worry about not having enough money - you'll never have enough money. It's that simple. If you don't think you're capable of accomplishing your goals, you'll never accomplish any of them. Why? Because if that info is negative, it will result in a negative reality.

Positive Thinking

Positive thinking is a way of life rather than a momentary thought. We need to learn to develop thinking positively as a habit. The term state of mind is applicable in so many ways. If you are in an upbeat frame of mind, things just seem to go better! When we are in a down or depressed mood, things just seem to go from bad to worse. If you are thinking that there have been times when you thought positively and believed something was going to happen, but it didn't?

This is because you probably had negative affirmations or doubts. Some of them may be so old or ingrained in your thinking that you may not even have noticed. You can go around believing that your life is determined by silly superstitions or sadistic affirmations, but you won't grow, physical or otherwise.

Much of what we feel is determined by our mental state. For instance, let's say you go to a gym. You started out the morning all right, nothing out of the ordinary- your usual routine. When you get onto the treadmill, one of your friends walks up to you and says, "You look a bit pale? Hope you are not getting sick!" Up to now, you've not given much thought to how you felt. You thought you felt fine when you got up. In a few minutes, someone else walks up and says similar comments.

Now you are sure you must not be feeling well, after all people are commenting the same thing! Well, in a short while, you probably will be pale and feeling sick! The mind is a powerful thing. Accepting someone's suggestion that you are short, chubby, slow, or annoying, will have the same effect on you as if it were. Crush negative thoughts.

Relaxation Techniques

A good time to practice this technique is at night when you are in bed and ready for sleep. This is because you are in a more relaxed state, and should easily be able to slip into an alpha brainwave pattern. This will make it much easier to impregnate the mind with a goal or thought.

Just before going to sleep, take a few moments and "picture" something you want e.g. height! It doesn't matter if you are able to visualise clearly but just picture it as best you can. View your goal as though it already happened. Use the mental movie you learned on how to make in the mental imagery section.

Have people in your "movie" complimenting you for reaching your goal, or admiring your new height. Spend a few minutes immersing yourself into this movie with as many of your senses as you are able to include. Then place a "frame" (white or white light works well) around the movie to contain it. This indicates to your brain that this "movie image" is what you want to achieve.

Now, move the picture to the left or right - depending on where your brain considers the "past" to be. To find out what direction this is for you - think of something that happened the day before. Notice which direction your eyes move, even if it's only slightly. If it is to the right, your past is the right, and vice versa. Move your "movie" towards this direction and you are done for now. Practice this technique each night before you go to sleep. You can pick up where you left off the previous night, or repeat it.

It's best to start with just one movie at first. Use this technique for all your goals.

Self-Hypnosis

You may have experienced the following or know someone who has. One night, you realise that your alarm doesn't work and you have to wake up early the next day. So with conviction you say to yourself, "I have to get up at eight, I have to get up at eight…". The next morning you wake up and it's eight o'clock.

Your subconscious mind is capable of great potential. Every night before you fall asleep, send positive messages to your brain. For the purposes of gaining height, you could repeat the message mentioned before, "Everyday I am gaining height through exercises. I am Growing. I am Growing….".

If you have Morpheus, Kazaa or other similar tools, try searching "hypnosis" under Audio section to locate free tapes. You may also visit www.downloads.com to download programmes. Here are some websites you may visit.

- http://www.geocities.com/Area51/1047/hypnos.htm
- http://www.hypnos.co.uk/freedown.htm
- http://hypnohealer.co.uk/download.htm

Part 8
OTHER EXERCISES

Aerobic Exercises

These exercises will increase blood flow throughout the body, as well as growth producing hormones.

1. Jogging

This is a simple outline of a jogging programme. As you become more adept or if you already jog, increase the intensity & duration as you see fit. Just be sure to log it.

What is jogging?

Jogging can be done anytime or anywhere. It conditions the heart, improves muscle tone and strength, relieves stress, and can help with a variety of health problems, such as osteoporosis, heart disease, and arthritis. It takes discipline to run, but the rewards are measurable improvements in time, distance, endurance and strength.

How many calories does jogging burn?

The number of calories you burn when jogging will vary with the intensity and duration of your workout. According to the American Council on Exercise (ACE), a 160-pound person will burn about 12.5 calories for each minute of activity. Heavier individuals will burn more calories for the same amount of exercise while a lighter person will burn less.

Advantages of jogging

The big advantage of jogging over walking is that it takes less time and is the most efficient way to achieve cardiovascular fitness. The disadvantage is that it can result in more injuries, as the strain placed on both muscles and joints is greater. With proper shoes and preparation through stretching, you can greatly reduce your risk of injury.

Starting your jogging programme

If you are older, overweight, or have health problems, you may want to get a check-up from a physician before you begin to run, or perform any strenuous exercise. If you have never exercised before, begin with brisk walks, jumping jacks, and jogging in place, to test your endurance.

Exercise guidelines

Warm up with some light stretching, followed by either a fast walk or a slow run. Gradually build up to a pace that's comfortable for you. Most experts suggest that you land on the ball of your heel, and let the rest of the foot follow. You want to push off your toes as you begin your next step. Keep your back reasonably straight, your shoulders back. When you come to a hill, it is only natural to lean forward a bit, which is perfectly fine.

Let your arms swing naturally, don't hold them to your sides. Don't worry so much about how far you are jogging. Rather than a set a distance goal, set a time goal. Increase your time gradually; experts usually recommend an increase of only 10% a week to avoid injury from over-exertion.

Bring some cool water along, to keep your body from becoming dehydrated. Any pair of comfortable shoes will do, but don't wear thin socks. If you get blisters, put some vaseline on your feet and switch to running socks.

Part 8
OTHER EXERCISES

Warm up with leg and back stretches. Then begin with five minutes of slow or brisk walking. Do 15-30 minutes of jogging, with walking breaks if you need it. Cool down with some brisk or slow walking. When you reach home, do some leg stretches, as well as the posture stretches mentioned in the stretching section.

You should wait at least 3 hours after jogging, before doing any passive or active stretches, to give your bones a chance to relax.

2. Jump Rope

Jump roping is a high intensity exercise that will help aid the lengthening of your body, as well as increase production of natural growth hormones.

Measuring your heart rate

Heart rate is widely accepted as a good method for measuring intensity during running, swimming, cycling and other aerobic activities. Exercise that doesn't raise your heart rate to a certain level and keep it there for 20 minutes won't contribute significantly to cardiovascular fitness.

The heart rate you should maintain is called your Target Heart Rate. There are several ways of calculating. One of the easiest is:

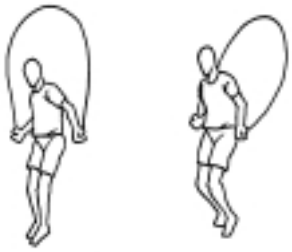
Maximum Heart Rate = (220 - age) X 70%

Therefore, the target heart rate for a 40 year-old would be 126. Some methods for figuring the target rate take individual differences into consideration. Here is one of them:

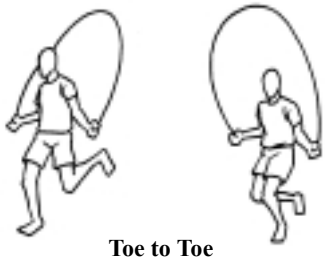
1. Subtract age from 220 to find Maximum Heart Rate
2. Subtract resting heart rate (info below) from maximum heart rate to determine Heart Rate Reserve
3. Take 70% of heart rate reserve to determine Heart Rate Raise
4. Add heart rate raise to resting heart rate to find Target Rate

Resting heart rate should be determined by taking your pulse after sitting quietly for five minutes. When checking heart rate during a workout, take your pulse within five seconds after interrupting exercise because it starts to go down once you stop moving. Count pulse for 10 seconds and multiply by six to get the per-minute rate.

Jump roping is a great way to gain height. Here are some routines that you may follow. Choose any two types and perform them for 10 minutes for each routine.



Bell



Toe to Toe

a. Bell

- Jump forward 6" to 12" over the rope. Land on both feet together.
- Jump backward 6" to 12" over the rope. Land on both feet together.

Tips:

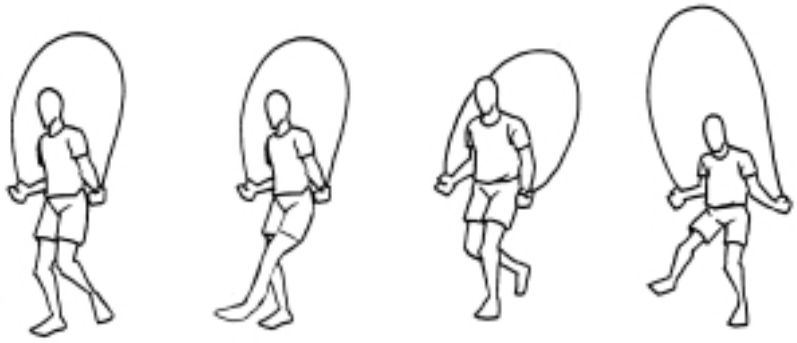
- Keep your feet together
- Don't jump too high forward or back
- Stay on the balls of your feet
- The motion is similar to a bell clapper swinging back and forth.
- Cues: forward-backward, forward-backward.

b. Toe to Toe

- Jump over the rope and land on your left foot, touch your right toe to the floor and about 6" to 12" in the back.
- Jump over the rope and land on your right foot, touching your left toe to the floor in the back.

Tips:

- Don't put any weight on the toe in back; keep all your weight on your front foot.
- Wait until the rope passes your back toe before you touch your toe to the floor.
- Cues: right-left, right-left.



Swing Kick

c. Swing Kick

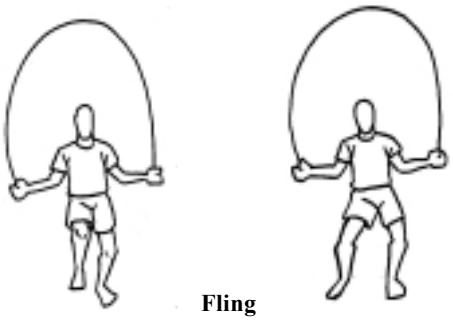
- Jump over the rope, landing on your right foot, and swing your left foot back.
- Jump over the rope, landing on your right foot again, and kick your left foot forward.
- Jump over the rope, landing on your left foot, and swing your right foot back.
- Jump over the rope, land on your left foot again, and kick your right foot forward.

Tips:

- Straighten your legs on each forward kick.
- Cues: back-kick, back-kick.

d. Fling

- Jump over the rope, landing on your left foot, and touch your right toe to the floor in back.
- Jump again, landing on your left foot, and touch your right toe to the floor out on your right.
- Jump again, landing on your left foot, and touch your right heel to the floor in front.
- Repeat Steps 1- 3, reversing your feet.



Fling

Tips:

- Refer to tips for Toe-to-Toe
- Keep your weight balanced on one foot for all three jumps.
- Wait for the rope to pass under you before touching your foot to the floor.
- Your foot should touch the floor 6" to 12" away from your other foot.
- After the last step, go immediately to the beginning and work on the other foot.
- Cues: toe-side-heel, toe-side-heel.

You can alternate the exercises. Do 2 types one day for 10 -15 minutes each & the other 2 the next day. You can also do all 4, doing each type for 5 - 7 minutes. This will provide a great workout. Remember to jump rope at least **every other day**.

3. Bike Stretch

You can stretch even when you are bike riding. You may do biking instead of jogging, but you should still do the jump rope exercises. You can do this with the bike machines in the gym or regular bikes. Just raise the seat on the bike so that you have to stretch your legs, when you sit, while doing a rotation.

You should also perform the back stretches before you bike ride, and the posture stretches afterward, to achieve a full body stretch.

Do not worry about having disproportionate arms and legs, your body knows how to proportion size during growth & these exercises will also stretch the limbs. If you still have doubts, see the Mental Exercises section.

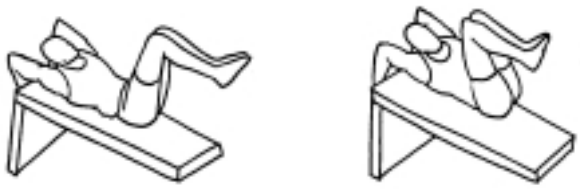
Anaerobic Exercises

1. Abs Workout

Working out your abs will aid your lower back, as well as your posture. These exercises will target the abs. If a six-pack is your goal, following these exercises, the aerobic exercises, the guidelines in the nutrition section, and the mental exercises section, as they will definitely put the six-pack within your reach. This is an extensive abs programme, but the stronger your abs are, the stronger your back muscles will be.

The Programme

It consists of three cycles of a no-rest circuit routine comprised of six consecutive exercises that will hit every part of your waistline. Each complete circuit is followed by a two to three minute active rest period. You then repeat the cycle two more times. The whole routine should take about 15 minutes per cycle. If you are not used to high-intensity ab training, you may find that you need to start the programme with two cycles the first week before advancing to three. Although most of the exercises can be performed effectively on the floor or on a flat bench, the use of a decline bench will increase the workout load on your abs.



Lower Ab Crunch

a. Lower Ab Crunch

This focuses on the lower abdominal.

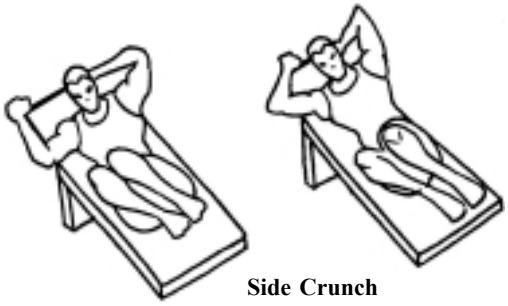
- Lie on the floor, or on a flat or decline bench, with your knees bent at a 45° angle.
- Bring your knees toward your chest in a slow and controlled manner by contracting the lower abdominal.
- Return slowly to the starting position.
- Repeat 15 times.
- Focus on pulling with the lower abs.
- Limit your range of movement to minimize hip flexor involvement.

Leg Raise / Hip Up

b. Leg Raise/Hip Up

Combine this exercise with the lower ab crunch to strengthen your lower back.

- Raise your hips off the bench three to five inches, keeping your legs perpendicular to your body.
- The hips should be lifted by pushing up with the lower abs.
- Your feet should move straight up as you lift.
- Repeat 15 times.

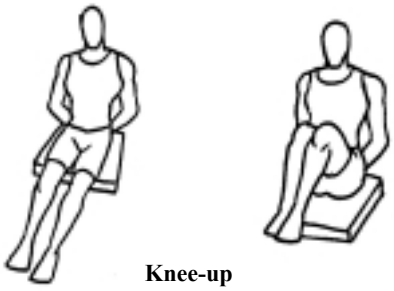


Side Crunch

c. Side Crunch

This is the most effective exercise to work the muscles between your ribs and the muscles along the sides of your abdomen.

- Lie on the floor or a flat or decline bench on your side with your knees bent and your arms holding onto either the end of the bench or something behind you.
- Slowly bring your knees toward your chest.
- Switch to the other side and repeat. Do 15 repetitions for each side.
- Keep the movement short to remove the hip flexors from the motion.



Knee-up

d. Knee-up

This exercise works both the lower and the upper abs.

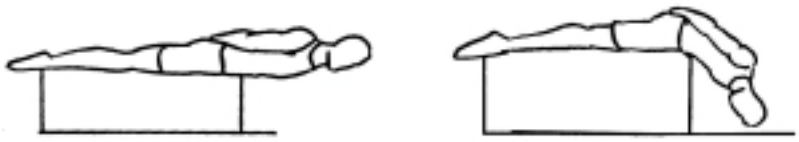
- Sit on a bench with your body parallel to the bench and your legs resting on the bench.
- Grasp the edges for support.
- Lift your feet off the bench and bend your knees.
- Raise your bent knees toward your chest, keeping your toes pointed downward.
- Mentally focus on squeezing your abs throughout the movement, and make sure your feet don't touch the bench.
- Repeat 15 times.

Lying Crunch

e. Lying Crunch

This exercise effectively targets the upper abdominal.

- With your torso flat on the floor, place your legs up on a wall or bench.
- Pull your shoulders off the ground about six inches by contracting your abs.
- To increase the intensity of the exercise, begin by first contracting your glutes and then hold that contraction while you perform the crunch.
- This enables you to totally isolate the abs.
- Repeat 15 times.



Back Hyperextensions

f. Back Hyperextensions

This spinal erector exercise helps balance abdominal strength and tighten the waistline.

- Lie down on a hyperextension machine or Swiss ball so that your hips are supported, but your torso can swing freely.
- Bend forward at the waist, keeping your back straight.
- Focus on using your lower back muscles to raise your torso until your lower back muscles simultaneously will maintain proper alignment.

Active Rest Period

After completing the no-rest circuit, there is an active rest period lasting two to three minutes. During this period, stretch and tighten the abs and some of the posture exercises to enhance our control over the abs.

Stomach Vacuums

Perform stomach vacuums during the active rest period. The stomach vacuum is one of the best exercises you can perform to shrink your waistline in a very short period of time. The vacuum takes some practice to master, it's extremely effective in helping you gain great control over your abdominal and giving your waistline a paper-thin appearance.

Stomach Vacuum

- Exhale all the air in your lungs, sticking your chest out, and trying to touch your belly button to your backbone (don't worry, you will never accomplish this).
- Hold for 10 to 20 seconds, relax, and repeat.

The simplest way to perform vacuums when starting out is from a kneeling position on all fours. As you begin to master the vacuum in this position, you can also perform it in an upright kneeling, seated, or standing position. Like anything else, the more you practice the easier it becomes and the more control you will have over flexing your abdominal. Eventually, you will be able to do these anywhere, from driving in your car to standing in line at the grocery store.

Basic Ab Stretch

- Stretch your abs by locking your hands and reaching as high for the sky as you can.
- Hold for 10 to 20 seconds, then repeat.
- Perform all the exercises, 15 repetitions for each type (one circuit) and then do the active rest period.
- Then perform this from the beginning again.

Workout Summary
(Perform after morning cardio three times per week)

Circuit Programme

- Lower Abs/Crunch - 15 reps - no rest
- Leg Raise/ Hip Up - 15 reps - no rest
- Side Crunch - 15 reps each side - no rest
- Knee-up - 15 reps - no rest
- Lying Crunch - 15 reps - no rest
- Back Hyperextension - 15 reps - no rest

Active Rest (two or three minutes)

- Basic Ab Stretch
- Posture exercises

For the first week repeat twice with no additional rest between cycles. After week one repeat 3 times without additional rest.

2. Chin-ups & Pull-ups

These exercises work the shoulders, as well as the back, arms, and obliques. You can experiment with these different types, but only do one exercise type per day. They should be done every other day, or every 2 days, depending on your strength and experience.

Chin-up

Close Grip Chin-up

a. Chin-up

- Step up and grasp bar with an overhand grip.
- Pull down until the chin is above the bar.
- Lower body until arms and shoulders are fully extended. Repeat.

Pull-up

Rear Pull-up

b. Close Grip Chin-up

- Step up and grasp parallel bars.
- Pull body up until elbow are at the sides.
- Lower body until arms and shoulders are fully extended. Repeat.

c. Pull-up

- Step up and grasp bar with a wide overhand grip.
- Pull body until neck reaches the height of the hands.
- Lower body until arms and shoulders are fully extended. Repeat.

Underhand Chin-up

d. Rear Pull-up

- Step up and grasp bar with an overhand wide grip.
- Pull body up until the bar touches the back of the neck.
- Lower body until arms and shoulders are fully extended. Repeat.

e. Underhand Chin-up

- Step up and grasp bar with an underhand grip.
- Pull body up until elbows are to the sides.
- Lower body until arms and shoulders are fully extended. Repeat.

Back Exercises

These exercises will strengthen your back muscles, and promote growth hormone. Use with a full body workout.

Dumb-bell Power Clean & Press

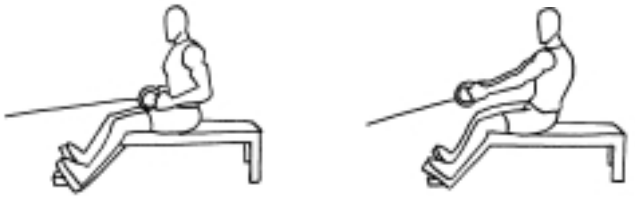
1. Dumb-bell Power Clean & Press

- Grasp a pair of dumb-bells, and stand with them at hip height to your sides.
- Keep your feet shoulder width apart and your knees slightly bent. You should be in a semi-squat position.
- From your semi-squat position, do a quarter squat to load the weights.
- Change direction and explode up, allowing your hips to bring the dumb-bells up to shoulder height.
- From shoulder height, press the dumb-bells straight up to the ceiling.
- Be sure to pop your hips up and push through your glutes.
- This is an advanced movement, so be sure to use proper form.

Lat Pull Downs

2. Lat Pull Downs

- Sit in a high-pulley cable machine, and grasp the pull-down bar with a wider than shoulder width grip.
- With a wide grip, pull the pull-down bar toward your upper chest.
- Pause, and return to the starting position.
- Do not lean too far back during this exercise.



Seated Low Rows

One-Arm Rows

3. Seated Low Rows

- Sit at a low-cable machine.
- Slightly flex your knees, keep your torso straight, with your back upright and extended.
- Pull the bar or handle towards your abdomen.
- Keep your elbows close to your ribs while squeezing your shoulder blades together.
- Pause, and slowly return the weight to the starting position, making sure your elbows don't pass your mid thighs.
- Keep head and shoulders upright, and be sure not to overextend or lean forward at all times.
- Your knees should maintain a slightly bent position. Fully extend your arms, but don't lock them out.

4. One-Arm Rows

- Stand and kneel over a flat bench with one arm and one knee from the same side of your body touching bench.
- Keep your back flat and your head up.
- Your other arm should be extended toward the floor, grasping a dumb-bell. Your other foot should be planted flat on the floor.
- Pull the dumb-bell up to your side, maintain a flat back position.
- Pause with your elbow in the air and the dumb-bell at your side, then slowly lower the weight back toward the floor.
- Do not let your elbow fall away from your body.
- Keep your hand and foot flat on the bench and floor.
- Keep your back flat.

Part 9
EXERCISE ROUTINES

Exercise Routine 1

Exercise to do before bed.

- Body stretch with back against the wall.
- Various stretching exercises.
- 15 minutes of inversion with gravity boots.
- Finally reach up to the ceiling and try to touch it.

Exercise Routine 2

This exercise would straighten your spine and muscles. This would only work if you actually put effort into your workout, take your time and have fun.

- Lie flat on floor, arms stretched in front of you and legs stretched towards your back.
- Then carefully raise your right arm, together with your left leg.
- At first you do repetitions, up and down motions.
- Then you raise arm and leg, and hold as long as you can until you feel slightly tired.

Exercise Routine 3

1st week - 200 jumps, 6 days per week, one day rest

2nd week - 100 jumps with one-pound ankle weights, followed by at least 100 jumps with only your bodyweight, 6 days per week, one day rest

3rd week - 100 jumps with two pound ankle weights, followed by 100 jumps with one pound ankle weights, followed by at least 100 jumps with just your body weight, etc. Add one pound of weight each week, and always do 100 jumps before taking one pound off and do 100 jumps and then taking another pound off, until there are no ankle weights. With just your body weight, do 100 jumps.

Exercise Routine 4

- 10 spine stretches backwards
- 10 forwards
- 10 left side
- 10 right side
- 20 standing twists
- 10 cobras (yoga)
- 20 dry land swims
- 20 alternating opposite hand and legs
- 10 standing shoulder blade squeezes
- 10 corner wall squeezes
- 10 shoulder blade squeezes clasped hands behind back
- 10 forehands and backhands (like tennis) for each arm
- 10 minutes of hanging (broken up into 30 second hangs)
- 20 minutes of hard cycling with a raised seat
- 250 vertical jumps
- 550 jump rope repetitions

Exercise Routine 5

- Face a wall an arm's length away.
- Place your palms on the wall.
- Take one leg and swing from left to right across your body.
- You'll be standing on one leg while the other is going from side to side like a pendulum (the wider the pendulum arc the greater the force).
- On a doorway chin-up bar, swing your legs back and forth like you're walking in wide arcs (a doorway is ideal so your legs can swing the max length).

Exercise Routine 6

Here is a simple training that will boost your spine bones size and will activate the main white bones hard cells to workout.

- Grab a small weight or a wet towel. Stand straight in your room holding the towel with both hands close to the belt, just like holding a parallel ruler.
- In the standing position bent your knees and stretch the wet towel up to the diagonal as far as high as possible, come back to starting position and then to the right.
- The trick is to do 50 repetition to each side (and the exercise should be done just like doing a "diagonal dunk in with a basketball to the rim".
- Move your hips to left and right and keep your knee position always straight.
- Use ankle weight and try to jump to go up and up, left and right.
- This exercise will release your growth hormones and will have the same effects as playing basketball for hours. This will hurt your knee since you will be going up and down diagonally.

Exercise Routine 7

Hip Hinge

- Stand with feet shoulder-width apart, holding a rolled-up towel along your spine, one hand by your head, the other by your buttocks.
- Lean forward as you bend knees slightly (keeping back straight).
- Pause and return to starting position.
- Repeat 10 times (also practice, minus the towel, when leaning over the sink to brush your teeth).

Bent-Over Row

- Stand with feet hip-width apart, knees bent, holding 5-pound weights, palms down.
- Keeping back straight, bend forward until back is almost parallel to floor, arms extended down.
- Bend elbows and lift weights up to chest as shown, pinching shoulder blades together; pause over to start.
- Repeat 10 times.

Corner Shoulder Squeeze

- Stand facing the corner of a room, toes about 3 feet away from walls.
- Lean forward in a vertical push-up position, hands on walls at shoulder height.
- Bend elbows, squeezing shoulder blades together as you lower chest toward wall (keep abs tight and pelvis slightly forward).
- Pause and press back up to starting position.
- Repeat 10 times.

Standing Shoulder Press

- Stand with feet shoulder-width apart, knees bent and pelvis tilted under.
- Keeping arms straight, clasp hands behind back, squeeze shoulder blades together and lift hands up and away from back as high as you comfortably can
- Pause and return to starting position.
- Repeat 10 times.

Exercise Routine 8

Day 1 : Monday

- Warm up: Jumping with ankle weights 100 repetitions.
- Wide-over hand grip (4" from shoulders).
- Chins with added weight, 13 sets of 10 repetitions.
- Hyperextensions with added weights, 13 sets of 10 repetitions.
- Cool Down: Hang on Bar with ankle weights, 13 sets of 5 mins hanging.

Day 3: Wednesday

- Warm up: Swim on dry land with ankle weights & wrist weights, 13 sets.
- Lying Leg Curls, 13 sets of 10 repetitions.
- Decline Dumb-bell Pullovers 13 sets of 10 repetitions.
- Cool Down: Hang on Bar with ankle weights, 13 sets of 5 mins hanging.

Day 5: Friday

- Warm up: Jumping with ankle weights 100 repetitions.
- Close-underhand (palms facing you) grip Chins with added weight, 13 sets of 10 repetitions.
- Hyperextensions (Roman chair)with added weights, 13 sets of 10 repetitions.
- Cool Down: Hang on Bar with ankle weights, 13 sets of 5 mins hanging.

Day 7: Sunday

- Warm up: Tuck Jumps with ankle weights 100 repetitions.
- Hook kick * 3 sets of 10 repetitions each leg.
- Leg raise to the Front with ankle weights * 3 sets of 10 repetitions each leg.
- Leg raise to the Back with ankle weights *3 sets of 10 repetitions each leg.
- Leg raise to the side with ankle weights *3 sets of 10 repetitions each leg.
- Cool Down: Hang on Bar with ankle weights, 13 sets of 5 mins hanging.

Note: Training is only on uneven days, i.e. every 2nd, 4th, 6th, and 8th day is a complete rest day. The intervals between the various sets should be 1-2 minutes.

Part 10
MEAL PLAN

6-Meal Plan

Proper nutrition is key to proper hormonal balance. Forget the food pyramid. It is the same model used to fatten cows! This is not a diet. It is a meal plan for proper insulin release, which plays a crucial role in growth. This is just a rough outline.

The food pyramid is basically a high carbohydrate diet good only if you want to store fat. You starve your body when you wait more than 4 hours between meals. Which puts your body in a catabolic state. When your body is in a catabolic state it stops burning fat for energy and starts storing it. It also begins converting carbohydrates to fat. In order to keep your body in an anabolic state you should eat a small meal every 3 to 4 hours. Now, some of you might thing eating every 4 hours will increase your weight, but it will actually reduce body fat.

With your body in a constant anabolic state, your lean muscle mass will increase, and body fat will begin to decrease. A normal person will lose about a pound a week before they start gaining weight (from increased muscle mass) regardless of whether they exercise or not. You may experience additional weight loss since you are following the exercises in this programme.

You should consume a 200-500 calorie meal for each meal, with a 100-calorie snack an hour before bed. Here are the nutritional amounts you should consume with each meal.

- 25-35 grams of protein with each meal: 15 grams for night snack
- 36-50 grams of carbohydrate with each meal: 25 grams for night snack
- 5-10 grams of fat with each meal: 2 - 6 grams for night snack

As a basic outline, foods high on the glicemic index (high starch foods) such as breads, pastas, potatoes, & bananas should be eaten in moderation. Foods low on the glicemic index such as vegetables should be a major source of your carbohydrates. Junk food which is usually high in carbohydrate, high on the glicemic index, and high in fat should be eaten sparingly, such as once very 3-5 days to maintain proper hormonal and insulin levels.

Getting 25-35 grams of protein in every meal can be difficult if your diet is usually low in protein. One or two pieces of chicken breast, a can of tuna, or a protein shake can fulfil this need. Cold cuts may not be the best source since they are high in sodium and you would need at least 6 pieces to get the right amount of protein.

For fat, nuts especially macadamia nuts, are a good source of fat. Fats high in monosaturated fats are the best. A finger full of peanut butter can also fulfil this need, although the best bet would be taking fish oil supplements. If you are curious as to what a diet of high glicemic index foods, which raise insulin levels, will do to your body, just see any diabetic or overweight person and ask them what they eat.

Nutritional Supplements

This section contains two categories of supplements. One category is nutritional supplements that will complement the nutritional programme. Other includes supplements that can increase growth-producing hormones in the body.

1. Basic Supplements

These supplements are basic supplements that can aid your nutritional needs. This book will not go through every supplement because a multivitamin will cover just about everything.

CLA - congulated lithoinac acid - also found in tuna fish and oatmeal.

This is a fatty acid and has actually been shown to decrease body fat by 30% over 3 months - even in individuals who didn't even exercise! This is a great supplement because not only is it a good source of fat (although only 1 gram per meal, 2 or 3 times daily) but you will actually lose fat.

Ginkgo Biloba

This supplement has been shown to increase blood flow as well as memory. It has no side effects although you should consult a doctor if you have blood or heart problems.

Ephedrine

This supplement aids in fat loss, as well as increased performance. It may raise your blood pressure though, so please see a doctor if you have heart problems.

Calcuim & B- 1-12 Vitamins

They help with bone fragility and are all around good supplements.

2. Alternative Supplement

This section includes some well-known supplement that has allegedly helped people grow.

Chondroitin Sulfate

Intended Key Function: To speed rebuilding of joint cartilage and to fight osteo-arthritis and other wear-related connective tissue problems. A number of well-controlled studies and meta-analyses have found chondroitin sulfate to partially restore joint function and to mildly reduce symptoms (pain, stiffness).

Chondroitin sulfate is related to glucosamine. Both are used widely in supplements intended to nourish joint cartilage, although there is no evidence that taking them together works better than using either independently.

Common Dose: 400 mg 3 times daily is a common dose.

Part 11
TOOLS

Height Calculator

To calculate your maximum natural height based on your parents and grandparents' height, use the following formula:

- Your father's height = F cm (inches)
- Your mother's height = M cm (inches)
- Your father's father's height = FF cm (inches)
- Your father's mother's height = FM cm (inches)
- Your mother's father's height = MF cm (inches)
- Your mother's mother's height = MM cm (inches)

If you are a **male**, with 95% certainty,
Your Maximum Natural Height in cm (inches) =
(F + M + FF + FM + MF + MM) / 6 * 1.08 + 8.8 cm (3.5 inches)

If you are a male, with 99% certainty,
Your Maximum Natural Height in cm (inches) =
(F + M + FF + FM + MF + MM) / 6 * 1.08 + 14 cm (5.5 inches)

If you are a **female**, with 95% certainty,
Your Maximum Natural Height in cm (inches) =
(F + M + FF + FM + MF + MM) / 6 * 0.92 + 6.4 cm (2.5 inches)

If you are a **female**, with 99% certainty,
Your Maximum Natural Height in cm (inches) =
(F + M + FF + FM + MF + MM) / 6 * 0.92 + 11.4 cm (4.5 inches)

Explanation: Extensive statistic and scientific research shows the average height of males is equivalent to the average height of their parents and grandparents multiply by a conversion factor of 1.08. This will be most males' **natural height**. However, 95 out of 100 males' **maximum possible natural height** is below the sum of their natural height plus 8.8 cm (3.5 inches), and 99 out of 100 males' **maximum possible natural height** is below the sum of their natural height plus 14 cm (5.5 inches).

Similarly, the average height of females is equivalent to the average height of their parents and grandparents multiply by a conversion factor of 0.92. This will be most females' **natural height**. However, 95 out of 100 females' **maximum possible natural height** is below the sum of their natural height plus 6.4 cm (2.5 inches), and 99 out of 100 females' **maximum possible natural height** is below the sum of their natural height plus 11.4 cm (4.5 inches).

Personals Analysis

It is not surprising that taller men are preferred more often than shorter men. While the medium height for men in the United States is 5' 8½", the most preferred height for a man is 6' 0". This is true for almost any combination of woman's attributes. There is some interesting differentiation. For a short man (5' 4" and shorter) living in the United States, the best states to live in are Idaho, Maine, Vermont, and Wyoming. A short man has a greater chance of being included in a woman's preferences. This is probably because these states have relatively low populations. Women have fewer choices and so are more likely to compromise and include a shorter man in their preferences. In contrast, California, New York, New Jersey, Washington D.C., Nevada and Arizona are the worst states for a short man. In these states, women's expectations are highest, again probably because the states are so populous and there are many choices.

Please understand that statistical errors are more likely to appear for other countries because less data is available. However, we can still determine that country is a significant determiner of preferences. In general, a small man is twice as likely to be preferred by a woman outside the United States as within. There are two possibilities. First, people in the Unites States are more superficial than in other countries. Second, women in the United States are taller and so prefer taller men. The table below shows in rank order, from worst to best, how well a man 5' 4' tall would fare in each country. Only countries with 50 or more records are listed. The third column shows the mean height of women in that country. Except for the Philippines, Indonesia and Thailand, there does not appear to be a significant correlation between women's height in a country and their preference for a tall man.

Country	5' 4" man % in Preference	5' 4" man % in Preference
Caribbean	8%	65
United States	11%	65
Hong Kong	13%	63
Canada	13%	65
England	14%	65
Japan	15%	64
Germany	17%	66
Brazil	17%	65
China	19%	64
Russia	22%	65
Australia	22%	66
France	23%	66
Philippines	25%	62
Indonesia	29%	64
Thailand	40%	63

There are interesting distributions in age and race. Women 18 to 39 are most likely to include a short man in their preference. Between 40 and 59, they prefer a taller man and from 60 on, they seem less concerned about height. This is somewhat counter intuitive. One would expect younger people of both sexes to be shallower and to gain depth of personality as they age.

One possible explanation is that the middle-aged women were married and divorced and now has higher expectations than they did when they were young. Preferences also varied by race. Those women who described themselves as *Other* or *Didn't Say*, where most likely to include a short man in their preferences. Asian women preferred short men to a greater extent than any named race. Those who described themselves as *Multiracial, Hispanic* or *White* were in the middle while *African-American/Black* women most often preferred taller men.

Correlations by body type are easier to explain. Women who described themselves as *Petite* or who *Didn't* say was more likely to include a short man in their preferences. Not surprisingly, women who are *Slim/Slender* or *Athletic* were least likely to include short men. It is easy to conclude that these women have many choices and are less likely to compromise. Women who described themselves as *Average, A Few Extra Pounds* or *Large* were in the middle between the other extremes.

Other analysis shows that smaller women are less likely prefer a man less than or equal to their own height. Taller women are more forgiving. In the U.S., about 7% of women between 4' 10" and 5' 6" are will choose a shorter man. 18% of women 5'7" and taller will choose a smaller man. As the woman's height increases, so does her propensity to prefer a shorter man. A short woman will choose a man whose height is less than or equal to her own 16% of the time, while taller woman will make that choice 42% of the time.

Outside the United States, 22% of short women are likely to choose a man the same height or smaller. Just over half of taller women will choose a man the same height or smaller. The table below shows the details of the analysis for each woman's height between 4' 10" and 6' 8".

Woman's Height	United States		Non-United States	
	Will Choose	Will Choose Smaller	Will Choose Smaller	Will Choose Smaller or Equal
4' 10"	2%	4%	4%	9%
4' 11"	1%	3%	2%	8%
5' 0"	0%	19%	1%	30%
5' 1"	11%	13%	13%	18%
5' 2"	8%	12%	12%	17%
5' 3"	7%	12%	11%	19%
5' 4"	6%	13%	9%	18%
5' 5"	7%	18%	10%	27%
5' 6"	8%	23%	11%	27%
5' 7"	13%	32%	27%	49%
5' 8"	14%	37%	16%	43%
6' 1"	72%	85%	60%	72%
6' 2"	77%	91%	56%	88%
6' 3"	74%	88%	100%	100%
6' 4"	78%	94%	0%	0%
6' 5"	67%	92%	57%	57%
6' 6"	100%	100%	50%	50%

Caveat

This study provides a strong indication of what women who use online personals ads want in a man with respect to his height. However, these conclusions may not necessarily translate to the larger population of woman who are dating but prefer to meet men in other venues.

Part 12
HEIGHT INCREASING PRODUCTS

Products That Help Increase Height

Height increasing products can be grouped into four categories.

1. Supplements

These may include vitamins, minerals, amino acids, and Human Growth Hormone. They come in pill, powder or liquid form. Two companies even sell a skin lotion that they claim promotes height increase. Coincidentally, one of these companies also sells a lotion to grow hair. We wonder if it is the same formula.

Options for adolescents and adults to self-prescribe Human Growth Hormone (HGH) supplements exist but it is not advisable. If an adolescent does not already have low HGH levels, taking HGH can have the opposite effect of prematurely closing the growth plates and limiting future growth. The best course of action is to consult with a paediatric endocrinologist and, if tests warrant it, let the doctor prescribe the correct type and dosage of HGH.

Use of HGH supplements by adults can produce acromegaly, a deformity in which bones that have not ossified (turned into bone) in adulthood, such as the jaw and facial bones, are induced to grow. This can result in a wide variety of symptoms and distorted appearances.

2. Instruction Books

Most of the books or pamphlets contain information on growth patterns, nutrition, vitamins, minerals, exercises, sleep advice, genetic conditions, posture, and dress. You may see some growth improvements.

3. Devices

Some devices are quite strange. Several companies sell shoe insoles that claim to use acupressure on the feet to stimulate the bodies meridians to promote height increase. A Korean company sells growth earrings and gold studded neck lengthening devices.

Several devices are used in combination with stretching exercises. It should be noted that a person's height is slightly variable. People tend to be taller in the morning and can be almost an inch shorter by the end of the day as their spine compresses from standing and sitting. If you measure your height before and after an exercise session, you may see a small change but it may not last to the next day. You may gain positive results by continuing the stretching exercises every day.

4. Hypnosis

Hypnosis has been proven to be very useful in certain circumstances, especially pain management.

Companies That Promote Height Increasing Products

So far, there are 36 companies that sell height-increasing products.

Country	No. of Companies
United States	17
Canada	5
India	5
Singapore	2
Germany	1
Indonesia	1
Malaysia	1
Philippines	1
South Korea	1
United Kingdom	1
Unknown	1

Websites are listed in alphabetical order by company name. Prices include shipping to the U.S., where listed, and are expressed in U.S. currency for comparisons.

Company	Website	Product Description	Cost
Alfacare	changeheight.com heightchange.com	Nutritional Supplements Foot cream	$109.94 for 3 mo. $129.95 for 4 mo. $149.95 for 5 mo.
Bagga, Dr. O. P.	herboheight.com	Herbal Supplements	$160 for 3 mo. $320 for 6 mo. $600 for 12 mo.
Beauty Forever	beautyforever.com.sg	Box of Zenith Grow Skin Patches Mini Height Increase Device	$793.53 for 4 boxes $216.09 for 1 box $341.20 for device
Biotex	heightclinic.com biotrox.com b-growth.com pharmateq.com	Exercise program B-Growth skin lotion	$59.45 for 1 mo. $79.45 for 2 mo. $109.45 for 3 mo.
Body Edge Solutions	growtaller.org	Yoko Shoe Insoles Secret Growth Simulating Formula Stretching Exercises Instruction Manual	$44.00
Body Image Solutions	betaller.com growthenhancer.com	Instruction Book (betaller) Nutritional Supplements (growthenhancer)	$53.97 for book $49.95 for 1 mo. $129.95 for 3 mo. $209.85 for 6 mo.
cosmoLab	heightfix.com	Nutritional Supplements	$59.99 for 3 mo.
Deep Trance Now	deeptrancenow.com	Hypnosis Audio Instructions Bonus reports	$160.70 for 6 CDs $130.70 for 6 tapes $28.45 for basic CD $23.45 for basic tape

Company	Website	Product Description	Cost
Dynamic Health & Fitness Institute	dynamicwalking.com	Video Tape Audio Tape Instruction Book	$51.20 Products also sold separately
ETC Group	ru2short.com	Exercise Journal	$39.00 for journal
		Multi-vitamin Supplement	$19.95 for 1 mo. vita. $54.00 for 3 mo. vita.
gainHeight .com	gainheight.com	Yoko Shoe Insoles	$44.00 per pair
Sunny Health	heightmax.com	Vitamin/herbal Supplement	$63.99
	shntech.com	Amino acid/mineral Supplement	
Hercules Health Care Products	hercules.trade-india .com	Long Looks Capsules	$5.26 for 60 capsules Shipping not included
Hypnotherapy of Nevada	hyptalk.com	8 Hypnosis Sessions on 5 CDs	$149.00
hypnotictapes .com	hypnotictapes.com	Hypnosis Audio Instructions	$78 for 4 CDs or 4 tapes
I Grew Taller	e-igrewtaller.com	Ichiyama Magnetic Shoe Insoles	$115.00 Products also sold separately
		Back Lengthening Apparatus	
		Tienchi Herbal Growth Formula	
		Skipping Rope	
		Exercises Programmes and Instructions	
Insight Audio	wendi.com	Hypnosis Audio Instructions	$99.00 for 1 CD
Ivanhoé AG	ivanhoeag.com	Nutritional Supplements	$224.99 for 1 mo. kit Supplements also
		sold separately	
Long Leg School	longlegschool.com	Growth Ear Rings	Prices from $90 to $398 Delivery extra
	slimntaller.com	Longman Stretch Device	
		Health Key Gold Stretch Device	
		Superkidari Stretch Table	

Company	Website	Product Description	Cost
Dr. Shyamala Mulye	doctormulye. focusindia.com	Homoeopathy Medication	$100.00 for 3 mo. $170.00 for 6 mo. $320.00 for 12 mo.
OneRom Group, Inc.	growtaller.net	Kimi Shoe Insoles	$59.95 per pair
ORTOPEDI	ortopedi.org	V-O Apparatus Written course	$117.00
Pcnet Solutions	bonesgrowth.com heightboosting.com heightinfo.com	Scientific Height Increasing Formula	$44.99
Premium Technologies	heightincrease.com	Kimi Shoe Insoles	$55.00 per pair
Prolex Inc.	parmalab.com	Herbal Supplement $289.99 for 12 mo.	$94.99 for 3 mo $159.99 for 6 mo.
P-Tech Solutions	heightgrowth.com	Herbs/Minerals Supplement	$99.99 for 3 Mo. $179.99 for 6 Mo. $299.99 for 12 Mo.
Sharp Labs	growtall.com	Powder Nutritional Supplement	$49.75 for 6 mo. $34.75 for 3 mo.
THSolutions	thinkhigh.com	Growth Patches Instruction Manual Energy Harmoniser	$59 for 1 mo. $119 for 3 mo. $179 for 6 mo. $19 - $39 for other
Tele Health Care	telehealthe.com	Tall You Foot Cream	$88.64 for LT Extra $142.24 for Dbl.Dose Delivery extra
To-Grow -Taller	to-grow-taller.com	Nutritional Supplements	$99 for 1 mo. $240 for 3 mo.

Part 13
ARTICLES

Cosmetic Leg Lengthening

Leg Lengthening is a complex process that has traditionally been performed primarily on children to correct disproportional leg lengths. It has also been an option for people with dwarfism to gain additional height.

More recently, the procedure has been used to give people with Constitutional Short Stature two or three extra inches of height. The term Constitutional Short Stature refers to people who are in the bottom fifth percentile of height in their region and do not display any deformities common with dwarfism.

Leg Lengthening procedures can not be compared with more simple plastic surgery options. They are very complex, painful, costly, and require long recovery times from one half to one full year. People considering this procedure must be fully aware of the pain and discomfort associated with it and must be mentally repared for the duration. Since anti-inflammatory pain medication can disrupt the creation of new bone, some doctors prescribe minimal pain management. Some medical centres require that the patient undergo a psychological evaluation to ensure they will be able to endure the recovery, with the necessary positive attitude.

If you are considering this procedure, be very careful about choosing a reputable hospital and ask a lot of questions.

1. Questions

There are several Leg Lengthening techniques and all of them are very complicated. If you are considering this procedure, make sure you have it done by a fully qualified doctor at a major medical facility. Here are a few questions you should ask during your first visit. You must be absolutely comfortable with the answers.

The Doctor

- What are the doctor's credentials?
- Where did he or she study the procedure?
- What is the doctor's specialty?
- How many times has the doctor successfully performed the procedure?

The Facility

- Is the doctor associated with a major medical facility. A teaching hospital tends to use the most advanced procedures.
- How often has the procedure been performed at the medical facility?
- How good is the information they provide about the operation?
- Do they have brochures?
- Do they do pre-surgery interviews and psychological evaluations?
- Can they provide counselling after surgery if needed?
- How comprehensive is their Web site?
- If the facility is in a foreign country, how well do the doctors and staff speak your language so your needs can be understood and met?

The Operation

- Which version of the operation is used and how recently was it developed?
- What is the success rate with this version?
- How often has this version been performed at this facility by this doctor?

Risk of Complications

- What is the risk of each minor, major, or long-term complication?
- What are the corrective actions for each possible complication?
- What specific problem or habits may make cause difficulty? For example:
  - Age
  - Smoking
  - Weight problem
  - Anaemia
  - Poor blood circulation
  - Poor history of exercise

Pain Management

- What is the pain management routine?
- What specific medications will be prescribed immediately after surgery and during recovery?
- Does the facility offer self-administered pain management?
- Can you arrange to bring your own pain medication following surgery? If you plan to have the surgery in another country, make sure you have proof that the medications are for you so they won't be confiscated by border authorities.
- What will the doctor prescribe if you cannot sleep, either because of pain or because of other factors?

Recovery

- How long will you have to stay in the medical facility?
- How long will you have to stay near the medical facility? You will typically need to be examined by the surgeon every two to four weeks during Strengthening and Lengthening.
- Will the medical facility help you locate a place to stay during recovery? This is especially important if you plan to have your surgery in another country.
- Can arrangements be made for a physician closer to home to monitor your progress?
- How long will it be before you can expect to walk, based on your personal factors?
- How long will it be before the external fixator device can be removed?
- Will the external fixator device be motorised for continuous lengthening or is the device lengthened manually?
- What responsibilities will family members have for your recovery?

References

- Ask for references for people who had successful outcomes.
- Ask for references for people who had complications so you can understand how well the doctor and the medical facility responded.

When you talk to the doctor, make sure he or she is really listening to you and to your concerns. The doctor should answer ALL your questions and none should be dismissed as unimportant or as an issue that can be deferred until later. Remember, if your questions are important to you, they should be important to your doctor.

2. Basic Procedure

Learn more about the basic procedure and the four phases: Preparation, Surgery, Lengthening and Strengthening. There are four phases: Preparation, Surgery, Lengthening and Strengthening.

a. Preparation

The patient has his or her initial consultations with the physician during this phase. The physician should explain all aspects of the operation and recovery. X-Rays are taken of the legs so that a custom Ilizarov external fixator device can be built specially for the patient. Some centres may also perform a psychological evaluation to ensure that the patient will be able to endure the entire procedure, with the necessary positive attitude.

b. Surgery

In the most common procedure, the tibia and fibula bones of both lower legs are broken and an external fixator device is attached to each half of each severed bone. The device is attached to the bones using pins or wires that go through small holes drilled through the patient's skin.

b. Lengthening

Also called Distraction, this phase begins about a week after surgery and continues over the next two to three months. The fixator device is lengthened, increasing the distance between both halves of each bone. New bone growth occurs in the space in between. The lengthening is applied slowly, about 1mm a day. Typically a screw is turned four times a day to achieve the 1mm per day separation. External fixator devices may also be motorised to achieve a continuous lengthening throughout the process.

By the end of this phase, the lower legs have been increased two to three inches. Two critical success factors for the procedure are extensive physical and occupational therapy and a positive attitude. Patients are scheduled for one to two hours of therapy each day while the external fixator device is attached. The patient is generally confined to a wheelchair during the Lengthening phase and must not bear any weight on the growing bone.

d. Strengthening

The phase may also be called the Consolidation phase. For the following three to six months, the patient continues to use a wheelchair until the newly grown bone is strong enough to bear the patient's weight. The external fixator device continues to be used to keep the two bones properly aligned, but is no longer lengthened. During bone Strengthening, physical therapy can be reduced to three times a week. At the end of the Strengthening phase, a very simple operation is performed to remove the external fixator device, and the patients can usually walk on their own, no longer needing a wheelchair. However, they may require a cast for an additional month for protection of the legs.

3. Pain Management

The entire Leg Lengthening procedure is very painful so proper pain management is key. Chronic pain can significantly impair recovery. There are limitations to the types of pain management medications that can be used. Anti-inflammatory drugs have been shown to slow bone growth and will only prescribe in emergencies. Narcotic drugs may cause the patient to become addicted and the doctor will probably want to keep away from them as well. Significant pain can also prevent the patient from doing physical therapy during the Lengthening and Strengthening phases. Extensive physical therapy is critical for the patient to be able to

walk again. Getting enough sleep is also important for recovery and may be a problem when the pain is very bad. Sleeping pills can be taken for a short amount of time after surgery but eventually they stop working.

4. Risks and Complications

As with any operation, there are risks of complications. For this procedure, the greatest risk is infection at the sites where the pins enter the skin. Special care must be taken to ensure that these sites are kept clean. Anti-bacterial ointments must be applied on a regular schedule. Other risks include:

- Bone Infection (osteomyelitis) may result in bone destruction or stiffening of joints if the infection spreads. Acute osteomyelitis is caused by bacteria that enter the body through a wound. The onset may be sudden, with chills, high fever, and severe pain. Intravenous antibiotic treatment will usually clear up the infection.
- Injury to blood vessels can impair circulation and prevent proper bone growth.
- Poor bone healing. This includes delayed healing or failure of the new bone to form a union with the old bone.
- Angulations can cause the leg to be angled inwards or outwards.
- Nerve injury could cause the patient to loose feelings in the lower leg or in extreme cases the loss of use of the leg.

Unequal limb lengths. If one leg fails to heal properly, the doctor may need to reverse the direction of the external fixator device to strengthen it, causing a slight differential between the two legs.

5. Additional Lengthening

To achieve a greater height, some patients opt for a second operation. Once the lower legs are strong enough, the femur bones of the thighs are broken and lengthened using a similar procedure. However, an additional six inches in the legs will make a person appear significantly disproportional. Add to that the additional expenses and recovery time of almost a year and it becomes obvious why the second operation is rarely performed.

6 Ways To Boost Growth Hormones

Size may matter, but in some cases the smallest thing can have the biggest impact. Like that grape-sized organ, the anterior pituitary gland nestled within your brain. Despite its small dimensions, it is the source of powerful juice when it comes to building height. The anterior pituitary gland is responsible for secreting a substance called somatotropic hormone, more commonly known as "growth hormone," into your loodstream.

Without that tiny gland, it wouldn't matter how many repetitions of stretching exercises you perform. Without it, building your physique would become an exercise in futility. "It's somatotropic hormone that dictates how your body will adapt itself from all your height increasing efforts" says Ed Burke, Ph.D., director of the Exercise Science Program at the University of Colorado at Colorado Springs.

Acting as your body's foreman, growth hormone instructs your skeletal bone to grow larger and stronger while it speeds the conversion of excess fats into energy. In other words, get enough growth hormone floating around in your system and your body has no choice but to construct itself into something bigger. Cheat yourself from acquiring your fair share and your body can only do so much, no matter how much you do.

Although the amount of growth hormone your body regularly produces is entirely up to your brain, there are a few things you can do to trick that thrifty gland into being a bit more generous. Now that you've worked hard enough on your body performing the stretching exercises, pay attention to these six proven ways to make your body work for you.

1. Sleep

Get your shut-eye. It's simple math really. Add eight hours to the time you went to bed, then look at your alarm clock before peeling yourself from the sheets. "Not getting enough sleep regularly can lower the amount of growth hormone your body produces daily," says Walter Thompson, Ph.D., director of the Centre for Sports Medicine, Science and Technology at Georgia State University in Atlanta.

Even though excess sleep won't necessarily increase the amount of growth hormone your body secretes, constantly burning your midnight oil could be suppressing how efficiently your body distributes growth hormone during the course of the day. Keeping normal sleeping habits may let you tap into a certain percentage of growth hormone that your bones never get a chance to utilise when sleep-deprived.

2. Eat Smarter

Focus on eating six or seven smaller meals during your day instead of three or four larger ones. Consuming large meals with a high glycemic index forces the body to release a high amount of insulin into the system to aid with digestion. This reaction not only forces your body to store fat, it may also inhibit the flow of the growth hormone being released throughout your bloodstream. Instead, make a point of consuming other low-sugar foods that will prevent the release of insulin.

The crossover between what you need to stay healthy and what you need to release more growth hormone doesn't stop with eating smaller meals and getting enough shut-eye. All of the same factors that need to be in place for a healthy lifestyle still hold true. Training right, eating right, sleeping right and keeping your stress to a minimum will not only keep you healthier, they will foster the type of environment that encourages the anterior pituitary gland to do its job. Deficits in any of these areas will only slow down how well your body functions as a whole, which in turn slow down the amount of growth hormone that is being continually pumped into your system.

3. Pre-workout Nosh

Toss back a small chicken salad sandwich a couple of hours before you exercise. Food Researchers have discovered that consuming a protein-carbohydrate meal two hours prior to working out and another meal immediately afterward elicited a significant increase in both growth hormone and testosterone within the bloodstream.

Even if you're not hungry a few hours before you exercise, you may want to consider having a snack to prevent being hungry within the two-hour window before you work out. Researchers at UCLA found that subjects who exercised with partially digested food in their stomachs experienced up to a 54 percent decrease in the production of growth hormone. Subjects who were fed strictly carbohydrates prior to a workout still experienced a lower production of growth hormone by up to 24 percent.

4. Training

What you put your body through during your stretching exercise routine has a direct effect on what your pituitary gland puts out to build height. A recent study in the Journal of Applied Physiology found that the frequency and amount of growth hormone the body secretes is relative to the intensity of your workout. Subjects who exercised at a higher intensity experienced greater and more frequent releases of growth hormone after their workouts.

To get the most from your training efforts, you need to be sure that Sthe duration and intensity of your regimen are high enough to elicit a response. Keeping your workouts focused on short-burst, high intensity anaerobic stretching exercises and maintaining a pace that lasts at least 20-30 minutes is a fair standard to follow.

There are certain stretching exercises that may help squeeze out a little extra growth hormone. By utilising stretches that include several muscle groups to work collectively, the intensity of the workout subsequently increases as well, forcing the anterior pituitary gland to issue more growth hormone to compensate for the extra effort.

Oddly enough, participating in intense aerobic exercise can also cause an increase in growth hormone release. However, what keeps marathoners from looking like basketball athletes is that their bodies react differently to the substance because of the activity they participate in. It is like having someone who never lifts weights using a muscle-building supplement. They have the building blocks within their system, but unless the endurance athlete is performing a significant amount of resistance stretching exercises, the body never recognises a demand to use these tools effectively to help restructure.

5. Supplement Strategically

Taking the amino acid glycine immediately before you work out can mildly stimulate the release of growth hormone, but only when taken as a supplement. Trying to achieve the same effect by consuming glycine-rich foods such as poultry or milk prior to exercise only inhibits growth hormone by causing you to exercise on a full stomach, plus the glycine doesn't get absorbed in the same way.

Being introduced into the body in the presence of additional amino acids forces the glycine to compete for transport across the blood-brain barrier, diminishing its effect on the growth hormone levels. The only way glycine can cause a reaction is when taken in isolated supplement form, preferably on an empty stomach to speed up absorption and prevent outside interference from other amino acids.

6. Do Not Pig Out Before Bed

Never eat a large meal within two hours of going to sleep. The reasoning ties into avoiding the same insulin surges you're trying to prevent during the day, but this abstention is especially important before bedtime. The body releases the greatest amount of growth hormone during the first two hours of sleep. Having excess insulin within the system after a large meal suppresses this higher output of growth hormone, preventing your body from taking advantages of it as you rest.

Night time also seems to be the best time to take additional supplements to increase the flow of growth hormone. UCLA researchers have found that taking the amino acid arginine and orthinine together on an empty stomach right before bedtime can boost growth hormone levels significantly. However, the amounts required to see a difference were between 40 and 60 grams, dosages too large to take in any version besides injectable form.

There are safer, more accessible supplements you can try, such as 5-hydroxy tryptophan, a safer derivative of tryptophan. This sleep aid used to encourage drowsiness also helps the brain release growth hormone.

Successful Short Individuals

This section highlights short people, deceased and living, who overcame the obstacles society placed before them and became persons of distinction. Some have earned admiration for generations to come. They made a real difference in the lives of their contemporaries and descendants. It only means that short people are human, like any other population of people, and some few of them have human failings.

Person	Years	Height	Occupation
Ain, Michael	1962 -	4' 3"	Surgeon
Albert, Carl	1908 - 2000	5' 4.5"	Political Leader
Alexander, Jason	1959	5' 5"	Actor
Allen, Gracie	1902 - 1964	5' 0"	Actress
Andretti, Mario	1940 -	5' 4"	Athlete
Askey, Arthur	1900 - 1982	5' 2"	Actor
Astin, Sean	1971 -	5' 5"	Actor
Aznavour, Charles	1924 -	5' 3"	Musician/Actor
Baker, Kenny	1934 -	3' 8"	Actor
Bakker, Tammy Faye	1942 -	4' 11"	Spiritual Leader
Ballan, Michael Henbury	1958 -	2' 11"	Actor
Barton, Clara	1821 - 1912	5' 0"	Activist
Barty, Billy	1924 - 2000	3' 9"	Actor/Activist
Baxter, Anne	1923 - 1985	5' 0"	Actress
Beame, Abraham	1906 - 2001	5' 2"	Political Leader
Beethoven, Ludwig Van	1770 - 1827	5' 4"	Composer
Ben-Gurion, David	1886 - 1973	5' 0"	Political Leader
Benatar, Pat	1953 -	5' 0"	Musician
Benigni, Roberto	1952 -	5' 5"	Actor
Benton, Thomas Hart	1889 - 1975	5' 0"	Artist
Bester, Madge	1963 -	2' 1.6"	Record Holder
Blake, Robert	1933 -	5' 4"	Actor
Bogues, Tyrone (Muggsy)	1965 -	5' 3"	Athlete
Bosco, Mario	1973 -	4' 10"	Actor
Boxer, Barbara	1940 -	4' 11"	Political Leader
Boykins, Earl	1976 -	5' 5"	Athlete
Brontë, Charlotte	1816 - 1855	4' 10"	Writer
Brooks, Mel	1926 -	5' 4"	Director/Actor
Bump, Mercy Lavinia	1841 - 1919	2' 8"	Circus Performer
Burghoff, Gary	1943 -	5' 5.5"	Actor
Caan, Scott	1976 -	5' 5"	Actor
Capote, Truman	1924 - 1984	5' 4"	Writer/Actor
Capra, Frank	1897 - 1991	5' 5.5"	Director
Carnegie, Andrew	1835 - 1919	5' 0"	Entrepreneur
Carter, Nell	1948 - 2003	4' 11"	Actress/Musician
Casement, General John S.	1829 - 1909	5' 4"	Construction
Chappas, Harry	1957 -	5' 3"	Athlete
Coleman, Gary	1968 -	4' 8"	Actor
Collins, Phil	1951 -	5' 5"	Musician
Copeland, Lil' Zane	1982 -	5' 3"	Musician
Corbett, Ronnie	1930 -	5' 0"	Actor
Costello, Lou	1906 - 1959	5' 3"	Actor
Currie, Nancy J.	1958 -	5' 0"	Astronaut
Curtis, Billy	1909 - 1988	4' 2"	Actor
Dalkey, Kara	1953 -	4' 11"	Writer
Danzig, Glenn	1955 -	5' 4"	Musician
Davis, Warwick	1970 -	3' 6"	Actor
Davis Jr., Sammy	1925 - 1990	5' 3"	Musician/Actor
Dawg, Phife	1970 -	5' 3"	Musician

Person	Years	Height	Occupation
de Balzac, Honoré	1799 - 1850	5' 2"	Writer
de la Rosa, Nelson	1958 -	2' 4.3"	Record Holder
de Larrocha, Alicia	1923 -	4' 9"	Musician
de Quincey, Thomas	1785 - 1859	5' 0"	Writer
de Sade, Marquis	1740 - 1814	5' 3"	Nobility
de Toulouse-Lautrec, Henri	1864 - 1901	4' 11"	Artist
DeVito, Danny	1944 -	5' 0"	Actor/Director
Dickens, Little Jimmy	1920 -	4' 11"	Musician
Didion, Joan	1934 -	5' 0"	Writer
Dio, Ronnie James	1949 -	5' 4"	Musician
Dollfuss, Engelbert	1892 - 1934	4' 11"	Political Leader
Douglas, Stephen A.	1813 - 1861	5' 0"	Political Leader
Dourif, Brad	1950 -	5' 4"	Actor
Dreyfuss, Richard	1947 -	5' 5"	Actor
Duffy, Julia	1951 -	5' 0"	Actress
Duke, Patty	1946 -	5' 0"	Actress
Dunn, Michael	1934 - 1973	3' 11"	Actor
Dupri, Jermaine	1973 -	5' 3"	Musician
Eaton, Meredith	1974 -	4' 3"	Actress
Ecclestone, Bernie	1930 -	5' 4"	Entrepreneur
Eisenberg, Aron	1969 -	5' 0"	Actor
Eisenstaedt, Alfred	1898 - 1995	5' 4"	Journalist
Ellison, Harlan	1934 -	5' 5"	Writer
Evans, Josh Ryan	1982 - 2002	3' 2"	Actor
Faulkner, William	1897 - 1962	5' 5.5"	Writer
Faustino, David	1974 -	5' 3"	Actor
Feldman, Corey	1971 -	5' 3"	Actor
Fine, Larry	1902 - 1975	5' 4"	Actor
Fitzgerald, Barry	1888 - 1966	5' 3"	Actor
Fox, Michael J.	1961 -	5' 4"	Actor
Friedman, Milton	1912 -	5' 0"	Economist
Fuller, Buckminster	1895 - 1983	5' 2"	Scientist
Gagarin, Yuri Alekseyevich	1934 - 1968	5' 2"	Astronaut
Gandhi, Mohandas (Mahatma)	1869 - 1948	5' 3"	Political Leader
Garland, Judy	1922 - 1969	4' 11.5"	Actress/Musician
Geronimo, Maria do Carmo	1871 - 2000	4' 0"	Record Holder
Getty, Estelle	1923 -	4' 9"	Actress
Giannoulas, Ted	1955 -	5' 4"	Actor
Gil, Arturo		3' 6"	Actor
Goffe, Rusty	1948 -	4' 2"	Actor
Gore, Leslie Sue	1946 -	5' 0"	Musician
Green, Seth	1974 -	5' 4"	Actor
Grey, Joel	1932 -	5' 5"	Actor
Grissom, Gus	1926 - 1967	5' 5"	Astronaut
Haft, Herbert	1922 -	5' 0"	Entrepreneur
Hammer, Armand	1898 - 1990	5' 5"	Entrepreneur
Hancock, John	1737 - 1793	5' 4"	Political Leader
Hart, Lorenz	1895 - 1943	5' 0"	Composer
Hayes, Helen B	1900 - 1993	5' 0"	Actress
Hirohito, Emperor Michinomiya	1901 - 1989	5' 5"	Political Leader
Hirshhorn, Joseph H.	1899 - 1981	5' 4"	Entrepreneur
Hoffman, Dustin	1937 -	5' 5.5"	Actor
Holzer, Heinrich	1945 - 1977	4' 10"	Athlete
Horiuchi, Gen	1965 -	5' 2"	Ballet Dancer
Hoskins, Bob	1942 -	5' 5"	Actor

Person	Years	Height	Occupation
Houdini, Harry	1874 - 1926	5' 4"	Magician
Howard, Curly	1903 - 1952	5' 5"	Actor
Howard, Moe	1897 - 1975	5' 4"	Actor
Hunt, Linda	1945 -	4' 9"	Actress
Hussein, King Ibn Talal	1935 - 1999	5' 3"	Political Leader
Ian, Janis	1951 -	4' 10"	Musician/Composer
Ikangaa, Juma	1957 -	5' 3"	Athlete
Jones, Davy	1945 -	5' 3"	Musician
Jones, Kimberly	1975 -	4' 11"	Musician
Lil' Kim			
Kant, Immanuel	1724 - 1804	5' 0"	Philosopher
Kattan, Chris	1970 -	5' 5.5"	Actor
Keats, John	1795 - 1821	5' 1"	Writer
Keeler, Wee Willie	1872 - 1923	5' 4"	Athlete
Khrushchev, Nikita	1894 - 1971	5' 3"	Political Leader
Sergeyevich			
Kline, Brian D.	1955 -	4' 4"	Actor
Korbut, Olga	1955 -	4' 11"	Athlete
Krone, Julie	1963 -	4' 10.5"	Athlete
La Guardia, Fiorello	1882 - 1947	5' 0"	Political Leader
Henry			
Ladd, Alan	1913 - 1964	5' 4"	Actor
Lander, David L.	1947 -	5' 3"	Actor
Lawrence, T. E.	1888 - 1935	5' 5.5"	Military Leader
Lazar, Irving (Swifty)	1907 - 1993	5' 2"	Agent
Lee, Brenda	1944 -	4' 9"	Musician
Lee, Spike	1957 -	5' 5"	Director
Leitzel, Lillian	1892 - 1931	4' 9"	Circus Performer
Lewis, Emmanuel	1971 -	3' 4"	Actor/Musician
Lewis, Shari	1933 - 1998	5' 0"	Ventriloquist
Lipsig, Harry	1902 - 1995	5' 3"	Lawyer
Lombardo, Guy	1902 - 1977	5' 4"	Bandleader
Loos, Anita	1893 - 1981	4' 11"	Writer
Loroupe, Tegla	1973 -	4' 11"	Athlete
Lorre, Peter	1904 - 1964	5' 5"	Actor
Macapagal-Arroyo,	1947 -	4' 11"	Political Leader
Gloria			
Madison, James	1751 - 1836	5' 4"	Political Leader
Mahler, Gustav	1860 - 1911	5' 4"	Composer
Man, Grandmaster Yip	1893 - 1972	5' 4"	Martial Arts
Manson, Charles	1934 -	5' 2"	Criminal
Maranville, Rabbit	1891 - 1954	5' 5"	Athlete
Marsden, Jason	1975 -	5' 4"	Actor
Marx, Chico	1887 - 1961	5' 4.5"	Actor
Marx, Harpo	1888 - 1964	5' 5"	Actor
McClintock, Barbara	1902 - 1992	5' 0"	Scientist
Mead, Margaret	1901 - 1978	5' 0"	Scientist
Mikulski, Barbara	1936 -	4' 11"	Political Leader
Miller, Dick	1928 -	5' 5"	Actor
Miller, Shannon	1977 -	4' 11.5"	Athlete
Mitchell, Margaret	1900 - 1949	4' 10"	Writer
Miyake, Yoshinobu	1939 -	5' 1"	Athlete
Mohammed, Gul	1957 - 1997	1' 10.5"	Record Holder
Moore, Alfred	1755 - 1810	4' 5"	Political Leader
Moore, Dudley	1935 - 2002	5' 2.5"	Actor
Moranis, Rick	1954 -	5' 4"	Actor
Morita, Noriyuki (Pat)	1932 -	5' 3"	Actor
Murphy, Audie	1924 - 1971	5' 5"	Military Hero/Actor
Musters, Pauline	1876 - 1895	2' 0"	Record Holder
Nelson, George Baby	1908 - 1934	5' 4.75"	Criminal

Person	Years	Height	Occupation
Face			
Nelson, Horatio	1758 - 1805	5' 5.5"	Military Leader
Nijinsky, Vaslav	1890 - 1950	5' 5"	Ballet Dancer
Oakley, Annie	1860 - 1926	5' 0"	Athlete
Palmer, Raymond A.	1910 - 1977	4' 0"	Writer
Pang, Darren	1964 -	5' 4.5"	Athlete
Parker, Bonnie	1911 - 1934	4' 10"	Criminal
Parra, Derek	1970 -	5' 4"	Athlete
Parton, Dolly	1946 -	5' 0"	Musician
Pastore, John Orlando	1907 - 2000	5' 4"	Political Leader
Patek, Fred	1944 -	5' 5"	Athlete
Pearson, Albie	1934 -	5' 5"	Athlete
Pesci, Joe	1943 -	5' 5"	Actor
Petrucciani, Michel	1962 - 1999	3' 0"	Musician
Phillips, Calvin	1791 - 1812	2' 2.5"	Record Holder
Piaf, Édith	1915 - 1963	4' 8"	Musician
Picasso, Pablo Ruíz	1881 - 1973	5' 4"	Artist
Pickford, Mary	1893 - 1979	5' 0"	Actress
Polanski, Roman	1933 -	5' 5"	Writer
Pope, Alexander	1688 - 1744	4' 6"	Poet
Prince,	1958 -	5' 2"	Musician
Rainer, Adam	1899 - 1950	3' 10.45"	Record Holder
Rains, Claude	1889 - 1967	5' 5"	Actor
Reich, Robert B.	1946 -	4' 10.5"	Political Leader
Retton, Mary Lou	1968 -	4' 9.5"	Athlete
Rice, Greg	1951 -	2' 10"	Entrepreneur
Rice, John	1951 -	2' 10"	Entrepreneur
Richeborg,	1768 - 1858	1' 11"	Spy
Rigby, Cathy	1952 -	4' 11"	Athlete
Robinson, Edward G.	1893 - 1973	5' 5"	Actor
Rochus, Oliver	1981 -	5' 5.3"	Athlete
Rodin, Auguste	1840 - 1917	5' 4"	Artist
Roloff, Matt	1962 -	4' 2"	Writer
Rooney, Mickey	1920 -	5' 3"	Actor
Rossitto, Angelo	1908 - 1991	2' 9"	Actor
Roventini, Johnny	1910 - 1998	3' 11"	Actor
Rubinstein, Zelda	1936 -	4' 3"	Actress
Sarazen, Gene	1902 - 1999	5' 5.5"	Athlete
Sayer, Leo	1948 -	5' 4"	Musician
Schmidt, Joseph	1904 - 1941	5' 3"	Musician
Schneider, Rob	1963 -	5' 5"	Actor
Schwartzman, Jason	1980 -	5' 5"	Actor/Mucisian
Scorsese, Martin	1942 -	5' 3"	Director
Sedran, Barney	1891 - 1964	5' 4"	Athlete
Selassie I, Emperor Haile	1892 - 1975	5' 4"	Political Leader
Serling, Rod	1924 - 1975	5' 4"	Producer/Writer
Shoemaker, Willie	1931 -	4' 11"	Athlete
Silla, Felix	1937 -	3' 11"	Actor
Simmons, Richard	1948 -	5' 4"	TV Personality
Simon, Paul	1941 -	5' 3"	Musician
Simpson, Adele	1903 - 1995	4' 9"	Couturier
Sisqo,	1978 -	5' 5"	Musician
Smith, Jada Pinkett	1971 -	5' 0"	Actress
Soares, Anthony		4' 2"	Political Leader
Stein, Ben	1944 -	5' 5"	Actor
Steinmetz, Charles roteus	1865 - 1923	4' 0"	Scientist
Stewart, Rod	1945 -	5' 5"	Musician
Stowe, Harriet	1811 - 1896	4' 11"	Writer

Person	Years	Height	Occupation
Beecher			
Strauss, Joseph	1870 - 1938	5' 0"	Engineer
Baermann			
Stravinsky, Igor	1882 - 1971	5' 4"	Composer
Strummer, Joe	1952 -	5' 5"	Musician
Suleymanoglu, Naim	1967 -	4' 11"	Athlete
Swanson, Gloria	1899 - 1983	4' 11.5"	Actress / Entrepre-
neur			
Teresa, Mother	1910 - 1997	5' 0"	Spiritual Leader
Thomas, Jonathan	1981 -	5' 4"	Actor
Taylor			
Thomas, Kurt	1956 -	5' 5"	Athlete
Thugwane, Josia	1971 -	5' 2.25"	Athlete
Thumb, General Tom	1838 - 1883	2' 9"	Circus Performer
Tolkien, J. R. R.	1892 - 1973	5' 5"	Writer
Troyer, Verne	1969 -	2' 8"	Actor
Tubman, Harriet	1820 - 1913	5' 0"	Activist
Victoria, Queen	1819 - 1901	5' 0"	Political Leader
Alexandrina			
Villechaize, Hervé	1943 - 1993	3' 11"	Actor
Voltaire,	1694 - 1778	5' 3"	Philosopher
Wagner, Lou	1948 -	5' 2"	Actor
Walcott, Joe	1873 - 1935	5' 1.5"	Athlete
Walker, Nancy	1922 - 1992	4' 11"	Actress
Webb, Chick	1902 - 1939	4' 0"	Musician
Wellstone, Paul David	1944 - 2002	5' 5"	Political Leader
West, Mae	1893 - 1980	5' 0"	Actress/Playwright
Westheimer, Dr. Ruth	1928 -	4' 7"	Psychologist
Whistler, James	1834 - 1903	5' 4"	Artist
(Abbott) McNeill			
Wilberforce, William	1759 - 1833	5' 0"	Political Leader
Williams, Paul	1940 -	5' 2"	Composer/Actor
Wood, Natalie	1938 - 1981	5' 0"	Actress
Woodburn, Danny	1964 -	4' 0"	Actor
Worters, Roy	1900 - 1957	5' 3"	Athlete
Xiaoping, Deng	1904 - 1997	5' 0"	Political Leader
Yamasaki, Minoru	1912 - 1986	5' 5"	Architect
Yezhov, Nikolai	1895 - 1939	5' 0"	Political Leader
Ivanovich			
Yogi, Maharishi	1911 -	5' 0"	Spiritual Leader
Mahesh			
Young, Angus	1955 -	5' 2"	Musician
Young, Malcolm	1953 -	5' 3"	Musician
Zadora, Pia	1954 -	5' 0"	Actress
Zarate, Lucia	1863 - 1890	1' 8"	Record Holder
Zmeskal, Kimberly	1976 -	4' 7"	Athlete
Lynn			