

OF GIANTS AND DWARFS

By Dr. Derek Conte

We are all familiar with the terms 'giant' and 'dwarf' and have seen people who are exceptionally tall or short and sometimes probably wonder why this is. As with so many things in the human body, growth or lack of it, starts with the brain - the pituitary gland in particular - which hangs from the bottom of the brain by a short stalk called the infundibulum. The pituitary gland releases a wide variety of hormones to regulate many bodily processes. Growth hormone is one that signals the growth centers in the skeleton to lay down cartilage which later hardens into bone. The skeleton grows in this way until about the age of 25 when the growth centers close and no more growth can occur.

In the case of giants there is an overproduction of growth hormone before the growth centers close, resulting in extreme but essentially proportioned growth of the skeleton though there is usually muscular weakness. The record height is the 8'11" of Englishman, Edward Wadlow. When excessive growth hormone is released after the growth centers close the condition is known as acromegaly. Here, bones cannot grow longer so they grow thicker, resulting in broad hands and feet and heavy growth of the brow, jaw and cheekbones as well

as enlargement of the nose, lips, tongue and vocal chords, deepening the voice. The well-known wrestler, Andre the Giant suffered from this disorder. For both gigantism and acromegaly overproduction of the hormone can be caused by a pituitary tumor.

One type of dwarfism occurs when there is undersecretion of growth hormone resulting in a perfectly small stature, high voice and sexual infantilism. They retain the look of children. Most famous is Tom Thumb, who stood about 21" full-grown.

Another type of little person is an achondroplastic dwarf, with an hereditary disorder stunting growth in the arms, legs and skull resulting in a normal-sized trunk, characteristic large forehead and depressed base of the nose.

Intelligence is normal in all these cases, but for these people there is often much to overcome socially and physically and they do - all the time. We should all look into ourselves and into each other for the beautiful qualities we have and utilize all our gifts as often as we can.

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