

Insulin-like Growth Factor Deficiency

Contributing Medical Specialist:

Aristides Maniatis, MD, FAAP
Rocky Mountain
Pediatric Endocrinology
Centennial, CO
Assistant Clinical Professor
University of Colorado Health
Sciences Center

This brochure is for informational purposes only. Neither The MAGIC Foundation nor the contributing physician assumes any liability for its content. Consult your physician for diagnosis and treatment.

Revised 5.2019

Major
Aspects of
Growth
In
Children

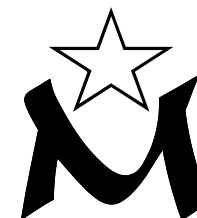
The MAGIC Foundation is a national nonprofit organization created to provide support services for the families of children afflicted with a wide variety of chronic and/or critical disorders, syndromes and diseases that affect a child's growth. Some of the diagnoses are quite common while others are very rare.

MAGIC

Continues and develops through membership fees, corporate sponsorship, private donations and fundraising.

“Children have a short time to grow and a lifetime to live with the results” ®

Insulin-like Growth Factor Deficiency



The MAGIC Foundation®
For Children's Growth

Not an illusion or magical,
But the caring for children
and their families

* * * *

Dedicated to the growth
and overall development
Of children

4200 Cantera Dr., Suite 106
Warrenville, IL 60555
630-836-8200/fax 630-836-8181
800-3MAGIC3

www.magicfoundation.org

A child's growth is one of the best indications of overall health.



Health care providers track children's growth to see that they are developing with a normal growth pattern. Height follows a normal bell distribution curve, and children shorter

than the 2.3%ile (<-2 standard deviations, SD) can be described as having short stature.

There are many reasons that can lead to a child having short stature. Non-hormonal causes include malabsorption, malnutrition, liver disease, kidney disease, chronic illness, or familial short stature. Genetic syndromes can also present with short stature. Hormonal causes include low thyroid hormone

(hypothyroidism), constitutional growth and pubertal delay (being a "late bloomer"), or deficiencies in the growth hormone axis (growth hormone deficiency: GHD or insulin-like growth factor-1 deficiency: IGFD).

Growth hormone is secreted from the pituitary gland and goes to the liver. In the liver, GH stimulates the production of IGF-1. In turn, IGF-1 goes to the growth plates in the bones for growth. Among growth hormone axis deficiencies, GHD is more common than IGFD. GHD is treated with growth hormone replacement therapy. IGFD is treated with IGF-1 replacement therapy.

The diagnosis of IGFD is based on normal (or even high) GH levels in the presence of short stature and a low IGF-1 level. Primary IGFD is defined as short stature with a height $<2.3\%$ ile (<-2 SD) and a low IGF-1 level (<-2 SD). Severe

primary IGFD is defined as a height <-3 SD with an IGF-1 level <-3 SD.

IGFD can be treated with an FDA-approved therapy: IGF-1 replacement. Like GH, it is given as a subcutaneous injection. Unlike GH, it is given twice daily and with meals to prevent mild associated hypoglycemia or low blood glucose levels.

For more information or to network with other families of children with IGFD, contact MAGIC.

