

# **Intrauterine Growth Retardation or Small Gestational Age**

**Series N.14**



**Patient's Guide**

**Average Readability Leaflet**

## **Intrauterine Growth Retardation- Series 14 (Revised August 2006)**

This leaflet was produced by Fernando Vera MSc and Prof Gary Butler at the Institute of Health Sciences, University of Reading, Reading, UK (August, 2006). Some portions of the text were extracted or modified from the Growth and Growth Disorders Booklet Series (Third edition, 2000)\* and may be used in conjunction with these as they provide a choice of leaflets providing the same information, but for people of different ages and reading abilities. The numbering sequence in each series is the same for easy cross-reference. The original leaflet series can be also obtained from the links given at the end.

All illustrations were created and produced by Fernando Vera MSc.

This leaflet is part of the Hormone Disorders Leaflet Series. The following are also available:

- Series N 3.** Puberty and the Growth Hormone Deficient Child.
- Series N 4.** Precocious Puberty
- Series N 5.** Emergency Information for Children with Cortisol and GH Deficiencies and those Experiencing Recurrent Hypoglycaemia.
- Series N 6.** Congenital Adrenal Hyperplasia
- Series N 7.** Growth Hormone Deficiency in Young Adults.
- Series N 10.** Constitutional delay of growth and puberty
- Series N 11.** Multiple Pituitary Hormone Deficiency
- Series N 12.** Diabetes Insipidus
- Series N 13.** Craniopharyngioma
- Series N 14.** Intrauterine Growth Retardation or Small Gestational Age
- Series N 15.a.** Hyperthyroidism
- Series N 15.b.** Hypothyroidism
- Series N. 16.** Type 2 Diabetes and Obesity

The development of these leaflets was funded (as a service to medicine) by Serono-Merck Ltd, Bedfont Cross, Stanwell Road, Feltham, Middlesex TW14 8NX, UK. Additional help was provided by the Child Growth Foundation ([www.childgrowthfoundation.org](http://www.childgrowthfoundation.org)).

\*Written by Dr Richard Stanhope (Gt. Ormond Street/Middlesex Hospital, London) and Mrs Vreli Fry (Child Growth Foundation)

## Introduction

This leaflet aims to provide information about Intrauterine Growth Retardation or Small Gestational Age. It will discuss information on how it's diagnosed, treated and some of the problems it may cause. Hopefully, this leaflet will help you to understand this condition and give you a basis for discussions with your GP or specialist team.

## What is Intrauterine Growth Retardation?

A low birth-weight baby is defined as a baby born with a weight that is low for the duration of the pregnancy. This indicates that the growth of the baby in the womb has been poor. This condition is known as **Intrauterine Growth Retardation** or **IUGR**.



IUGR is also the main characteristic of a medical condition known as Russell- Silver syndrome (RSS). However, not all children with IUGR necessarily have RSS.

## What is Small Gestational Age?

Small Gestational Age (SGA) means that a baby isn't as big as expected when born. This can be caused by IUGR. Sometimes, people talk about SGA instead of IUGR.

## **What is Russell-Silver syndrome?**

Russell-Silver syndrome (RSS) is a rare disorder present at birth. It's characterized by poor growth demonstrated by low birth weight and short stature. Little is known about the cause of this condition and why some children with IUGR have specific features of the RSS and others do not.

## **How are IUGR and RSS Diagnosed?**

The diagnosis of IUGR is based on careful comparison of the baby's weight at birth with the expected weight for the age of the baby. The diagnosis of RSS is based on these same measurements with the following additional observations:

- Early feeding problems.
- Excessive sweat and pallor of the skin.
- Low blood sugar.

The physical features are often not clear until after the first year of life. On examination, some of the following may be seen:

- A small triangular shaped face with a small jaw and a pointed chin.
- A mouth that tends to curve down.
- A blue tinge to the whites of the eyes.
- Normal head size, which appears large in comparison to the small body.
- The little finger of each hand may be short and curve inwards.
- Body asymmetry.

## **How does IUGR and RSS affect growth?**

Most of the children with RSS, and about one-third of those with severe IUGR, fail to show catch-up growth by two to three years of age. This is due to feeding difficulties during the first year of life and to the timing of this condition. This means that the likelihood of good catch-up growth is very low if IUGR occurs in the first or second stages of pregnancy. For these children, failure to catch-up is not helped by feeding difficulties.



Puberty in these children tends to start around the normal time, but it can be quite early. The pubertal growth spurt may be less than anticipated and so final adult height may not be as good as would have been expected. If puberty starts too early (less than 9 years in girls and 10 years in boys) slowing it down with hormone treatment can help children grow taller.

### **How does IUGR and RSS affect feeding?**

A common problem in the early months of life is that these children tend to remain very thin. This is associated with the feeding difficulties, and so they do not build up fat reserves. This means that they are at risk of having low levels of sugar in their blood. To lessen this problem, it is worth trying to encourage them to increase slightly the intake of calories.

In addition to feeding difficulties, your child may have constipation or diarrhoea. Either of these problems will need to be treated before any of the feeding problems are treated.

### **How can food intake help to avoid blood sugar levels?**

Children with IUGR generally eat small quantities, but may want to eat more often. This low food intake can lead to low levels of sugar in the blood and cause excessive sweating, tiredness and irritability. This problem will usually improve, as your child gets older but can reappear if your child is ill.

Maintaining a constant calorie intake and avoiding prolonged periods without food is the most important thing to encourage. If low levels of blood sugar continue to be a problem, some children may need to be given emergency hydrocortisone treatment. In addition, please refer to leaflet Series No. 5 "Emergency Information for Children with Cortisol and GH deficiency".

## What about feeding solids?

These children can be very disinterested in feeding and often reject solid foods. This may be due to the gagging they experience whilst trying to pass solid food. It is important that your child learns how to eat solids. Your GP or nurse may have ideas to help you overcome some of these feeding difficulties.

## What are some of the physical features of children with severe IUGR and RSS?

Not all children with IUGR and RSS will exhibit the same physical features. It's very unlikely that a single child will have all of the following:

- Abnormality in the opening of the urethra
- Undescended testes
- Bowel problems
- Low physical strength and lack of coordination
- Low levels of sugar in the blood
- Protruding ears
- Ear infections and speech difficulties
- Body asymmetry (RSS only)

## Can growth hormone treatment benefit children with IUGR and RSS?

Some of the children with low birth-weight or RSS will have abnormalities of growth hormone secretion. In these cases the use of growth hormone (GH) treatment is recommended.

This treatment may help to improve growth in some children. Also, there may be an increase of muscle tone. However, these benefits will vary from child to child. GH treatment may also be considered in some children who grow slowly. You can discuss this with your doctor or nurse.

## What are other sources of useful information?

The goal of this leaflet was to provide a basic overview of IUGR. Further information can be found in the following sources:

- **European Society for Paediatric Endocrinology**  
ESPE Secretariat, BioScientifica  
Euro House 22 Apex Court Woodlands, Bristol BS32 4JT - UK  
Telephone No: + 44 (0) 01454 642208  
Internet: <http://www.eurospe.org/>
- **British Society for Paediatric Endocrinology and Diabetes**  
BSPED Secretariat, BioScientifica  
Euro House 22 Apex Court Woodlands, Bristol BS32 4JT - UK

Telephone No: + 44 (0) 01454 642208

Internet: <http://www.bsped.org.uk/>

- **Child Growth Foundation**

2 Mayfield Avenue, Chiswick London W4 1PW UK.

Telephone +44 (0) 20 8995 0257

Internet: <http://www.childgrowthfoundation.org/>

You can also consult your doctor or nurse for additional information in your local area.