

Hormone Disorders

Intrauterine Growth Retardation or Small for Gestational Age

Patient's Guide



Average readability



Introduction

This leaflet aims to provide information about Intrauterine Growth Retardation or Small for Gestational Age (including Silver Russell Syndrome). It will discuss information on how it is 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 (IUGR)**.



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

What is Small for Gestational Age?

Small for 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 Silver Russell syndrome?

Silver Russell syndrome (SRS) is a rare disorder present at birth. It's characterized by poor growth, demonstrated by low birth weight and short stature. Changes in certain genetic programmes can be the cause of this condition but why some children with IUGR have specific features of the SRS and others do not is not fully known.

How are IUGR and SRS Diagnosed?

The diagnosis of IUGR is suggested by careful comparison of the baby's weight at birth with the expected weight for the age of the baby. In some children small genetic variations can be found. The diagnosis of SRS is based on these same measurements with the following additional observations:

- Early feeding problems.
- Excessively sweaty and pale skin.
- Low blood sugar.



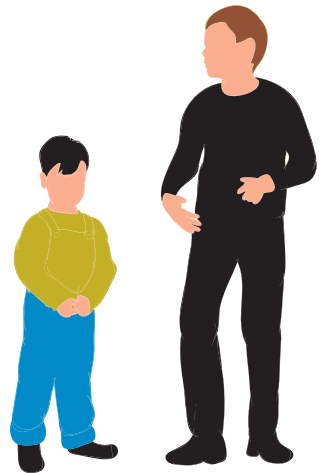
The physical features are often not clear until after the first year of life. On examination, some of the following may be seen:

- 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 SRS affect growth?

Most of the children with SRS, 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 may start around the normal time, but it can also be quite early. The pubertal growth spurt may be less than anticipated and so final adult height may not be as good as 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 SRS 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 by eating meals more frequently.

In addition to feeding difficulties, your child may have constipation or diarrhoea. both 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.



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.

What are some of physical features of children with severe IUGR and SRS?

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

- Abnormality in the urine opening in boys
- Undescended testicles
- Bowel problems
- Low physical strength and lack of coordination
- Low levels of sugar in the blood
- Protruding ears
- Ear infections and speech difficulties
- Asymmetry (Uneven size of body sides) (SRS only)

Can growth hormone treatment benefit children with IUGR and SRS?

Some of the children with low birth-weight or SRS will have abnormalities of growth hormone secretion. In these cases the use of growth hormone (GH) treatment is recommended. This treatment is licensed from age 4 years in children who remain short and were born SGA.

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 growth doctor or nurse.



What are other sources of useful information?

The goal of this leaflet was to provide a basic overview of Intrauterine Growth Retardation or Small for Gestational Age (including Silver Russell syndrome).

Further information can also be found by contacting the following organisations:

- **European Society for Paediatric Endocrinology**
Starling House
1600 Bristol Parkway North
Bristol
BS34 8YU
espe@eurospe.org
Telephone +44 (0) 1454 642246
www.eurospe.org
- **British Society of Paediatric Endocrinology and Diabetes**
bsped@endocrinology.org
<https://www.bsped.org.uk/>
- **Child Growth Foundation**
info@childgrowthfoundation.org
Telephone +44 (0) 208 995 0257
www.childgrowthfoundation.org
- **The Endocrine Society**
www.endo-society.org

You can also consult your specialist team for additional information in your local area.



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This leaflet is part of the **Hormone Disorders Series**

The following are also available:

- Growth Hormone Deficiency
- Puberty and the Growth Hormone Deficient Child
- Precocious Puberty
- Emergency Information for Children with Cortisol and GH Deficiencies and those Experiencing Recurrent Hypoglycaemia
- Congenital Adrenal Hyperplasia
- Growth Hormone Deficiency in Young Adults
- Constitutional Delay of Growth and Puberty
- Multiple Pituitary Hormone Deficiency
- Diabetes Insipidus
- Craniopharyngioma
- Hyperthyroidism
- Hypothyroidism
- Type 2 Diabetes and Obesity

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