The Low Birth weight neonate

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LOW BIRTH WEIGHT

- Low birth weight (LBW) = < 2.5 kg
- Very low birth weight (VLBW) = < 1.5 kg
- Extremely low birth weight (ELBW) = > 1 kg
- A large proportion of neonates < 2.5 kg and almost all 1.5 kg are premature
- Different degrees influence outcome - LBW, VLBW or ELBW
The diagram represents the growth and development of newborns based on weeks of gestation. It categorizes newborns into different weight groups:

- **LGA (Large for Gestational Age)**: Weights above the 90th percentile.
- **AGA (Appropriate for Gestational Age)**: Weights at or near the 50th percentile.
- **SGA (Small for Gestational Age)**: Weights below the 10th percentile.

The chart shows the weight in grams across different weeks of gestation, highlighting the transition from preterm to term and postterm stages. The growth curves indicate the expected weight distribution by gestational age.
Weight and gestation

- Newborns can be classified according to birth weight for gestation:
  - Appropriate for gestational age = AGA
  - Small for gestational age = SGA (Birth weight below 10th centile).
  - Large for gestational age = LGA
**SGA - AGA - LGA**

- **IE** Same gestation but different weights (wide spectrum; 3rd - 97th)
- **LGA**; infant of a diabetic mother, fetal response to hyperglycaemia with increased insulin & fat production
- **AGA**; >10th OR < 90th
- **SGA**; Both premature AND SGA has the worse prognosis
Growth restriction

- Intra-uterine growth restriction (IUGR)- a term used interchangeably with SGA
- Growth restriction in fetal life
- Classified as either symmetrical (both head and body) OR asymmetrical (head normal growth, body small)
Symmetrical vs asymmetrical

- Early insult
  - Equal reduction in body & brain size
  - Cause: infection or congenital
  - Fat, skin, packed cell volume, blood sugar & proteins normal
  - Worse prognosis (abnormalities)

- Late insult
  - Head & length OK but weight reduced
  - Maternal factors, placental dysfunction, high maternal blood pressure
  - Fat reduced, skin, packed cell volume, sugars & proteins abnormal
  - Prognosis better (weight only)
Premature verses SGA?

- Understanding the difference is important to understand individual problems and to avoid confusion re; management
- Assessing the difference can be done by gestation assessment tools used to determine dates
- Same gestation, different weight?
- Same weight, different gestation
Further Reading

- Ballard tool for assessing gestational age
  - [http://www.ballardscore.com/](http://www.ballardscore.com/)
- SGA
  - [http://www.merckmanuals.com/professional/sec19/ch272/ch272i.html](http://www.merckmanuals.com/professional/sec19/ch272/ch272i.html)
- Ross (2013) Fetal Growth Restriction