

## Customised Antenatal Growth Chart

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## 1. Purpose of guideline

This guideline establishes the correct procedure for measurement of fundal height within Auckland District Health Board (ADHB) and for use of a customised growth chart to aid interpretation of fundal height and ultrasound estimated fetal weight.

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## 2. Guideline management principles & goals

Each pregnant woman should be provided with a customised growth chart that estimates the expected growth in fundal height for her individual pregnancy. Fundal height measurements should be recorded from 24 weeks onwards and should not be plotted more frequently than fortnightly.

### **Women over 100kg**

For women >100 Kg, fundal height measurements are not reliable but estimated fetal weight measurements from growth scans should be plotted. Growth scans in women > 100kg should be performed if clinical assessment is not possible because of body habitus (which is often the case). Suggested gestations for ultrasound growth assessment are 30 and 36 weeks for women > 100kg when SGA cannot be excluded clinically.

### **Fundal height > 90<sup>th</sup> centile**

When fundal height is >90<sup>th</sup> centile it is important to ensure that appropriate diabetes testing has been performed and if there is concern re polyhydramnios a scan should be performed. There are no other evidence based interventions for management of the baby that is suspected to be LGA and therefore referral is not usually indicated. Note the primary purpose of the customised antenatal growth charts is to increase antenatal detection of SGA babies.

See flowchart: [Diabetes Screening](#)

### **Women at high risk of SGA**

Women at high risk of SGA e.g. previous SGA baby <10th percentile, chronic hypertension, antiphospholipid syndrome, etc. should continue to have growth scans at regular intervals as before. The frequency of scanning will be individualised according to the previous gestation at delivery and severity of SGA or the nature of the underlying medical condition. Even though customised growth charts increase detection of SGA babies they still only detect approximately 50 % and ultrasound should remain the gold standard in high risk situations.

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### 3. Accessing customised antenatal growth charts

At booking interview, **measure** the woman's weight, height, record her ethnicity, LMP and EDD. Also record the weight, gestation at delivery and sex of any previous babies

From within the ADHB network:

- i. Press the start menu on your computer and select programs
- ii. From the programs menu select GROW
- iii. Select "enable macros"

If outside ADHB, there are a number of ways to access the GROW programme, for further information go to [www.gestation.net](http://www.gestation.net).

- i. Complete the data requested
- ii. The programme will calculate the woman's BMI
- iii. Enter birth weight, infant sex and gestation at delivery for any previous babies and a birth weight centile will be generated for them
- iv. The customised chart will then appear on the screen with a graph of the optimal fundal height and estimated fetal weight measurements for the current pregnancy
- v. Enter the woman's estimated delivery date
- vi. Press print
- vii. Add chart to the woman's clinical record

Note if a previous infant had a birth weight <10<sup>th</sup> centile low dose aspirin (100mg) should be prescribed before 16 weeks to reduce the risk of recurrent SGA. Early specialist review should also be planned.

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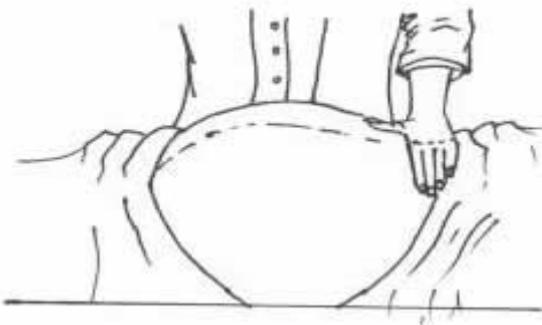
## 4. Fundal height measurement procedure

1. Mother semi-recumbent, with bladder empty.



- Explain the procedure to the mother and gain verbal consent
- Wash hands
- Have a non-elastic tape measure to hand
- Ensure the mother is comfortable in a semi-recumbent position, with an empty bladder
- Expose enough of the abdomen to allow a thorough examination

2. Palpate to determine fundus with two hands.



- Ensure the abdomen is soft (not contracting)
- Perform abdominal palpation to enable accurate identification of the uterine fundus.

3. Secure tape with hand at top of fundus.



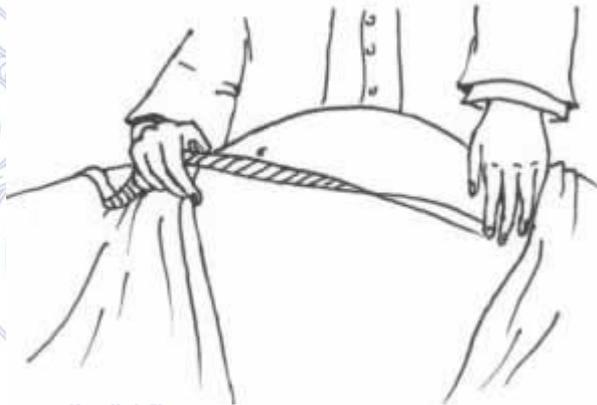
- Use the tape measure with the centimetres on the underside to reduce bias
- Secure the tape measure at the fundus with one hand

4. Measure to top of symphysis pubis.



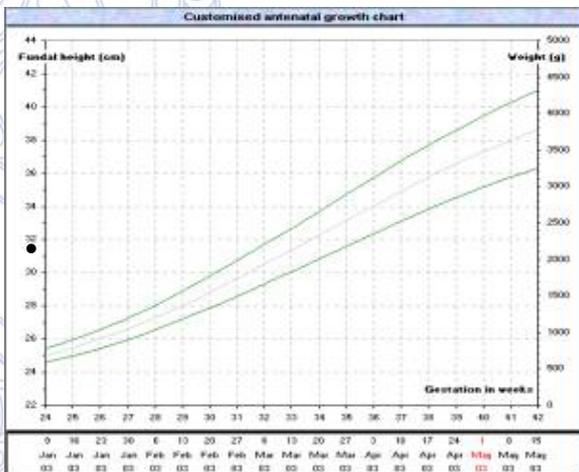
- Measure from the top of the fundus to the top of the symphysis pubis
- The tape measure should stay in contact with the skin

5. Measure along longitudinal axis of uterus, note metric measurement.



- Measure along the longitudinal axis without correcting to the abdominal midline
- Measure only once

6. Plot on customised chart, record in notes



- Record the metric measurement and plot it on the growth chart and record the fundal height measurement in the antenatal records

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## 5. Supporting evidence

A UK study showed an increased detection of small for gestational age (SGA) babies from 29% in the control group to 48% in the group with a customised growth chart. An audit from the community clinic at National Women's health found that 60% of women with a customised growth chart had their SGA babies recognised before birth compared with 10% detection in mothers without a customised growth chart. The gestation related optimal weight (GROW) programme can now be applied to New Zealand ethnic groups. It is likely that there will be less intervention in babies that are physiologically small such as some Indian and Asian babies.

[www.perinatal.nhs.uk/](http://www.perinatal.nhs.uk/)  
[www.gestation.net](http://www.gestation.net)

Gardosi J, Francis A. [Controlled trial of fundal height measurement plotted on customised antenatal growth charts](#). B J Obstet Gynaecol 1999; 106:309-17

McCowan L, Stewart AW, Francis A, Gardosi J. [A customised birth weight centile calculator developed for a New Zealand population](#). Aust NZ J Obstet Gynaecol. 2004; 44: 428-431

McCowan L, Stewart AW. [Term birth weight centiles for babies from New Zealand's main ethnic groups](#). Aust NZ J Obstet Gynaecol. 2004; 44: 432-435

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## 6. Associated ADHB documents

[Protocol for IUGR Management in Day Assessment Unit Referral – Maternal Fetal Medicine](#)

Flowchart: [Diabetes Screening](#)

## 7. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this ADHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

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## 8. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed **before** the scheduled date, they should contact the owner or the [Clinical Policy Advisor](#) without delay.

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