Why a focus from birth?

• High and increasing prevalence of overweight in very young, particularly in developed countries *(de Onis 2010)*
  - 43 million aged 0-5 ow or ob, a relative increase of 60% since 1990
• 21% Australian 2-3yr olds already overweight *(DoHA 2007)*
• Body size at 5–6 mths of age, and wt gain from 0–2 yrs of age consistently positively associated with high subsequent body size *(Stocks 2010)*
• Most excess weight gained before puberty is gained by 5 years – 91% girls, 70% boys *(Gardner 2009)*
Why a focus from birth?

- Evidence supports the role of lifestyle behaviours in early life as predictive of later adiposity
  - Early feeding – breastfed or formula; timing of introduction of solids
  - Types and amounts of foods provided
  - Development of parental norms around screen time and play
  - Development of parental norms around where, what and how to feed

This is a receptive time for parents – they actively seek information and support regarding these behaviours
Today’s objectives

- Calculating and interpreting BMI for age
- Behaviours to target
- Current evidence-based guidelines for eating and activity
- Suggestions for parents
- Resources for parents to reinforce your messages

Obesity prevention in PHC targeting infants

- Intervention providing settling strategies other than feeding and delayed introduction of solids—significantly lower wt for length (Paul et al 2011)
- Melbourne InFANT trial in MCH centres with first time mothers groups: significant differences in screen time and dietary behaviours (Hesketh et al 2013)
- Healthy Beginnings trial of SNHV: significant difference in BMI, median duration of BF, later introduction of solids and tummy time (Li Ming Wen et al 2011 & 2012)
Pre-school children

- Over 20% of 4-5 year olds are overweight
- One quarter consume recommended fruits and vegies
- Sugar-sweetened drinks commonly consumed
- Overweight pre-schoolers less physically active and spend more time in sedentary pursuits
- Parents are receptive and capable of behaviour change
- Brief interventions can change parental knowledge and behaviour

New NHMRC obesity guidelines recommend the 5A’s

**ASSESS**
- Measure height and weight, calculate BMI
- Assess diet, physical activity & screen time, assess parental readiness to change

**ADVISE**
- Advice using simple clear messages

**AGREE**
- Agree upon goals for changes in diet, activity, television
- Provide support and encouragement if recommendations currently practiced

**ASSIST**
- Offer tips, suggestions and resources to achieve recommendations

**ARRANGE**
- Follow-up & referrals if required
- Refer to GP if there are any health concerns, including if child is obese
Key opportunity for PHC in prevention

<table>
<thead>
<tr>
<th>Ask and assess</th>
<th>Advise/ Agree</th>
<th>Assist (Refer)</th>
<th>Arrange (FU)</th>
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<tbody>
<tr>
<td>Measure Ht/Wt and plot BMI</td>
<td>Benefits of healthy weight</td>
<td></td>
<td>Regular monitoring</td>
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<tr>
<td>Dietary behaviours (sugar sweetened drinks, fruit and veges, patterns)</td>
<td>Choose water, increase fruit and veges, eat breakfast, TV off</td>
<td>Whole of family approach/limit availability</td>
<td>Provide written information /websites</td>
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<tr>
<td>Physical activity</td>
<td>Active for 60 + minutes/day</td>
<td>Whole of family/explore community opportunities</td>
<td>Link into community</td>
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<tr>
<td>Sedentary behaviours</td>
<td>Limit TV time</td>
<td>Set limits on screen time</td>
<td>Provide written information /websites</td>
</tr>
</tbody>
</table>
ASSESS-Body Mass Index
\[ \text{BMI} = \frac{\text{wt}}{\text{ht}^2} \]

Plot BMI

- BMI-for-age charts
- BMI cutpoints different to adults
  - BMI > 85\(^{th}\) percentile indicates overweight
  - BMI > 95\(^{th}\) percentile indicates obesity
Tips for discussing BMI

• Use the chart to show the parent where their child sits

• Use of growth charts generally positive:
  – Objective (rather than seen to be nurse’s personal opinion)
  – Parents may rationalise or explain why children are “big” – including describing overweight as “puppy fat”, a “family thing” or “bone structure”
  – Established relationship with parents makes talking about weight easier
  – Approach the issue slowly, be tactful and talk about the issue very gently
  – Use terms such as “slightly above the healthy weight range” and suggest that the child can “grow into their weight”


Your turn: calculate and plot BMI

• Sally, aged 2y 6m:
  – Height 0.88m
  – Wt 14.8kg
  – BMI ?

• Mary, aged 4y 0m
  – Height 1.01m
  – Wt 19.8kg
  – BMI ?

• Bill, aged 4y 2m
  – Height 1.1m
  – Wt 22kg
  – BMI ?

• Adam, aged 2y 6m
  – Height 0.88m
  – Wt 14.3kg
  – BMI ?
Nutritional guidelines - infants

Recommendations

- Encourage, support and promote exclusive breastfeeding for around 6 months of age.
- Continue breastfeeding while introducing appropriate solid foods until 12 months of age and beyond, using a mother and child device.
- While breastfeeding is recommended for 12 months and beyond, any breast milk is better than any other substitute.

Recommendations

- Parents should be informed of the benefits of breastfeeding and of the risks of not breastfeeding when a change from breastfeeding is being considered.
- If supplementary feeding is needed in hospital, it should only be given for specific medical indications and with the mother’s agreement.
- Use cow’s milk-based formulas until 12 months of age (note: all infant formulas available in Australia are iron-fortified). Use special formulas only for infants who cannot tolerate cow’s milk-based products or because of specific medical, cultural or religious reasons (note: neither standard nor iron milk-based formulas are suitable alternatives for infants with allergies to cow’s milk-based formulas unless used under medical supervision).
- Soy-based formulas are indicated only for infants with confirmed pathologies; health care professionals should advise parents accordingly.
- Educate parents on the importance of correctly preparing infant formula and following the instructions carefully, including using the correct scoop and not over-filling or under-filling the scoop.
- Infants are not at risk from C. Sepsis when formula is prepared with pasteurised formula, previously boiled water and boiled within one hour. Latents may be at risk when conditions allow the bacteria to multiply to harmful levels. The problem is encountered through poor storage practices of infant formula (not preparation).

AUSTRALIAN DIETARY GUIDELINES

GUIDELINE 1

- To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to suit your energy needs.
- Children and teenagers should eat sufficient quantities of nutritious foods to grow and develop normally. They should be physically active every day and their growth should be measured regularly.
- Include vegetables of various types and colours, and legumes.

GUIDELINE 2

- Enjoy a wide variety of nutritious foods from those five food groups every day:
  - Plenty of fruits and vegetables of different types and colours, and legumes.
  - Wholemeal bread, cereals, pasta, potatoes and other starchy foods.
  - Lean meats and poultry, fish, eggs, dairy and alternates.

GUIDELINE 3

- Limit intake of foods containing saturated fat, added salt, added sugars and alcohol.
  - Avoid foods high in saturated fat such as confectionery, processed meats, cake, biscuits, pastries, salads and other fried and deep-fried foods.
  - Replace high-salt foods with low-salt alternatives such as lean meats, cereals, bread, pasta, potatoes, cereals and other starchy foods.
  - Eat low-fat dairy products for children under the age of 2 years.

GUIDELINE 4

- Choose, support and promote breastfeeding.

GUIDELINE 5

- Eat for your food, prepare and store it safely.
Dietary guidelines

- Dietary Guidelines for Children & Adolescents in Australia
  - Children & adolescents should be encouraged to:
    - Eat plenty of vegetables, legumes and fruits
    - Eat plenty of cereals, preferably wholegrain
    - Include lean meat, fish, poultry and/or alternatives
    - Include milks, yoghurts, cheese and/or alternatives
    - **Choose water as a drink**
  - Care should be taken to:
    - Limit saturated fat & moderate total fat intake
    - Choose foods low in salt
    - Consume only moderate amounts of sugars and foods containing added sugars

Assessing nutritional intake in pre-school children

- Ask:
  - How many serves of fruit does [child] eat on average per day?
  - How many serves of vegetables does [child] eat on average per day?
  - How many times per week does [child] have sugar-sweetened drinks like cordial or soft drink?
Assessing vegetable intake

- Vegetables & legumes
  - Children 4-7 years of age should eat 2-4 serves per day
  - 1 serve =

![Vegetable diagram](http://www.gofor2and5.com.au/article.aspx?c=1&a=5)

- Younger children should eat ½ serves as a rough guide

Assessing fruit intake

- Fruit
  - Children 4-7 years of age should eat 1-2 serve per day
  - 1 serve =

![Fruit diagram](http://www.gofor2and5.com.au/article.aspx?c=1&a=5)
Tips for parents

• Eating more fruit and vegetables
  – The more fruit and vegetables available and easily accessible to children, the more likely children are to eat them
  – Model eating fruit and vegetables
  – Prepare fruit and vegetables in different ways (e.g. raw, baked, mashed, grated, pureed)
  – Mash or grate vegetables into mince, casseroles, soups, pancakes, scones, muffins, pizzas and dips
  – Choose fruit and vegetables in season – cheaper and tastier
Resources

- Eating more fruit and vegetables

Drinks

**Water**
- Does not contribute to daily energy intake
- Quenches thirst
- Economical
- Contains fluoride
- The best choice for children every day

**Soft drinks & other sugar-sweetened drinks**
- Cordial, sports drinks, mineral waters, fruit juice, flavoured milks
- Energy dense
- Little nutritional value
- High amounts of sugar
- Correlated with rising child obesity rates
- Sometimes consumed instead of more nutritious drinks e.g. milk
- Recommended drink only occasionally
Tips for parents

• Choosing water as a drink
  – Have cold water available at all times at home
  – Gradually water down juice and cordial until child is happy to replace with water
  – Buy child a special drink bottle just for tap water, offer tap water with each meal, set a good example by drinking water yourself

Resources

• Choosing water as a drink
Family mealtimes

• Ask:
  – How many nights per week do you usually eat dinner together as a family?

Family meals

• Family mealtimes
  – Important to eat together as a family
    • Encourage conversation, limit distractions (e.g. TV), allow children to help with setting & clearing table

  – Adults provide, children decide
    • Offer a variety of healthy foods, children can then decide what and how much they will eat

  – Regular snacks and meals
    • Choose set times for each meal and snack (routine)
    • Avoid constant grazing
    • Ensure child eats breakfast every day
Resources

• Family mealtimes

Tips for parents

• Fussy eating
  – Continue to offer foods that have been refused previously (may take up to 15 tries)
  – Offer new foods along with familiar foods
  – Avoid bribes or punishments
  – Parents should model desired behaviour
PA recommendations

• Children 3-5 should be active every day for at least three hours, spread throughout the day
  – Active play-not competitive sport
    • Balancing, climbing, locomotor skills, object control skills
    • Water familiarisation, dance and gymnastics based programs
  – Active children less likely to be overweight
  – Strong bones & muscles
  – Interaction with other children
  – Development of fundamental motor skills

ASSESS-Physical activity levels

• How much time does [name] spend playing outside each day?
Tips for parents

• Three hours accumulated throughout the day
  – Typically short bursts of intensity broken up by periods of low intensity or rest
• Running with scarves, streamers, balloons
• Dress-ups
• Obstacle course with boxes, pillows, chairs
• Blowing and chasing bubbles
• Walk around the block identifying colours/numbers

Resources
Screen-time recommendations

• For children 2-5 years of age, sitting and watching television and the use of other electronic media (DVDs, computer and other electronic games) should be limited to less than one hour per day
  – Greater risk of excess weight
  – Negative effect on language, social and intellectual development
  – Exposure to advertising of energy-dense foods and drinks
• Babies less than 2-no screen time

Assess-sedentary time

• How much time does [name] spend sitting watching TV/DVDs and/or playing on the computer in a usual day?
Tips for parents

• All children need some down time
  – Looking at books
  – Puzzles and blocks
  – Drawing
• Plan TV/DVD time
• Turn off the TV when a favourite show is finished
• Set limits on computer time
• Plan active alternatives

Resources

GET UP & GROW
HEALTHY EATING AND PHYSICAL ACTIVITY FOR EARLY CHILDHOOD

Decisions about down time
A balancing act
Ingredients for Change

**Importance**
(why change)

**Confidence**
(How to do it – self efficacy)

**Readiness**

Rollnick, Mason & Butler 1999
Stages of Readiness to Change

- Initiation of risk behaviour
- Not ready to change
- Thinking about change
- Ready to change
- Making changes
- Maintenance of behaviour change
- RELAPSE

Goal Setting
Collaborative goal setting

• From what we have discussed:
  “are there any areas you think you could work on as a family?”
• “what changes do you think are possible for you as a family?”
• “what do you think you need to do to make that happen?”

Managing Resistance – Rolling with it

• Reaffirming autonomy – choice

• Empathising
  *I can understand where your coming from*

• Leaving door open
  *If ever you do decide that you want some help I can point you in the right direction.*

• Stop providing advice / solutions
Summary

• Obesity prevention measures can be incorporated into routine consultations
• Calculate and plot BMI
• Promote and support parents to encourage behaviours likely to have a positive effect on energy balance
  – Eat more fruit and vegetables
  – Choose water as a drink
  – Be active and limit TV time
• Reinforce healthy messages with printed resources and be supportive and encouraging of positive behaviours

CFH Nurses have unparalleled access to families

• Important role in both prevention and management
• Further work required to better understand:
  – how to engage practitioners
  – how practitioners can engage parents
  – best strategies for different population groups
Thanks!