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Saturday, August 13, 2016

(Plenary)

8:45 - 9:05 Early Followup Post NICU in PreTermers

EARLY FOLLOW-UP FOR PRETERM INFANTS

Dr Adrienne Lynn

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(Nothing to disclose)

PLAN OF ATTACK

- This talk is focussed on the “late-preterm” infant 32-36 weeks who may have no need for specific neonatal follow-up

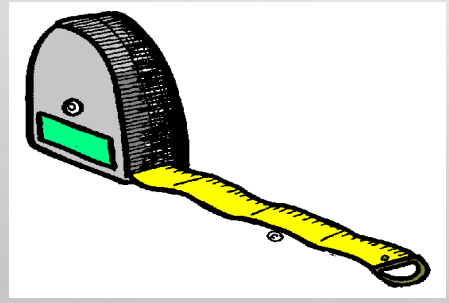
- Very preterm infants <32 weeks can be complicated with other issues needing closer oversight by the neonatal team on top of the basics discussed today

PLAN OF ATTACK

- Growth
- Feeding
- Medications
- Immunisations
- Red Flags

GROWTH

- Weight, length, head circumference should be measured and plotted at each review for the first year of life
- Use corrected age for plotting growth if born <37 weeks until 1yr age
- If we do not correct then there can be concern about the babies size, unnecessarily alarming the family

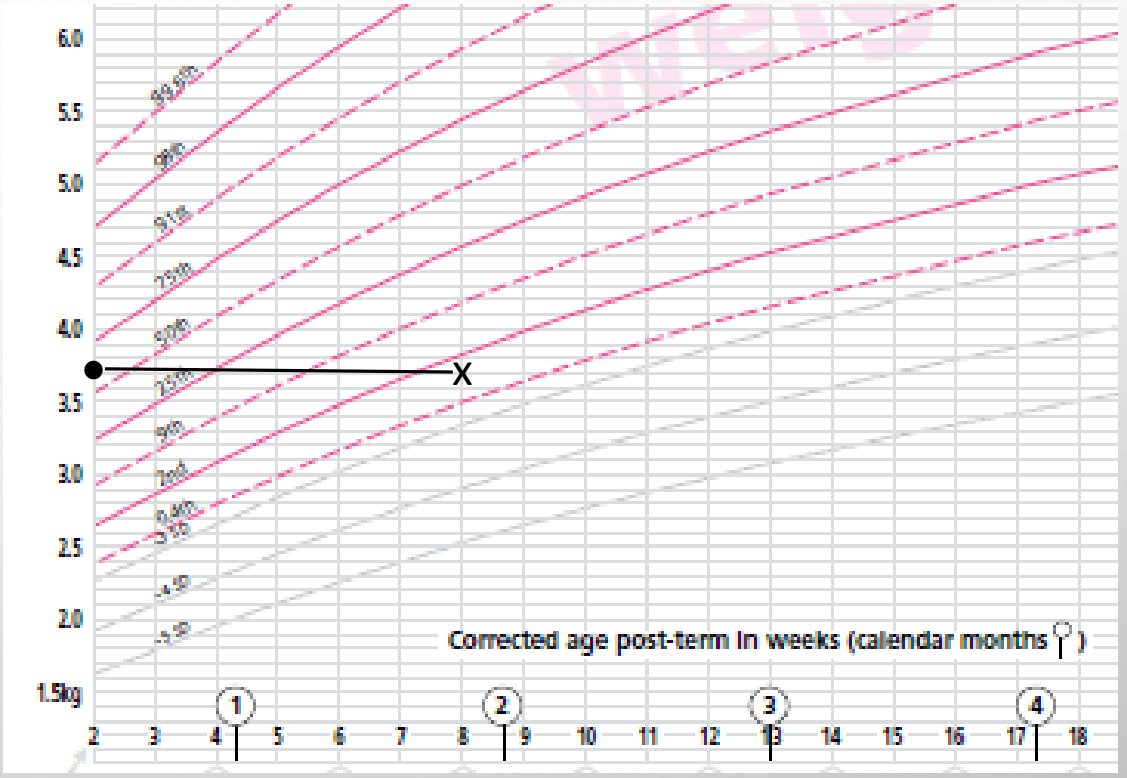


PLOTTING CORRECTED WEIGHT

Baby girl born at 34 weeks
DOB: 20th June
EDD: 1st August

On 13th August she is 3.7kg
2 weeks corrected age, but,
8 weeks chronological age

Weight of 3.7kg is:
50% corrected, but,
2nd % uncorrected



GROWTH

- Babies can normally hover around a centile line
- Length can be pretty inaccurate at times

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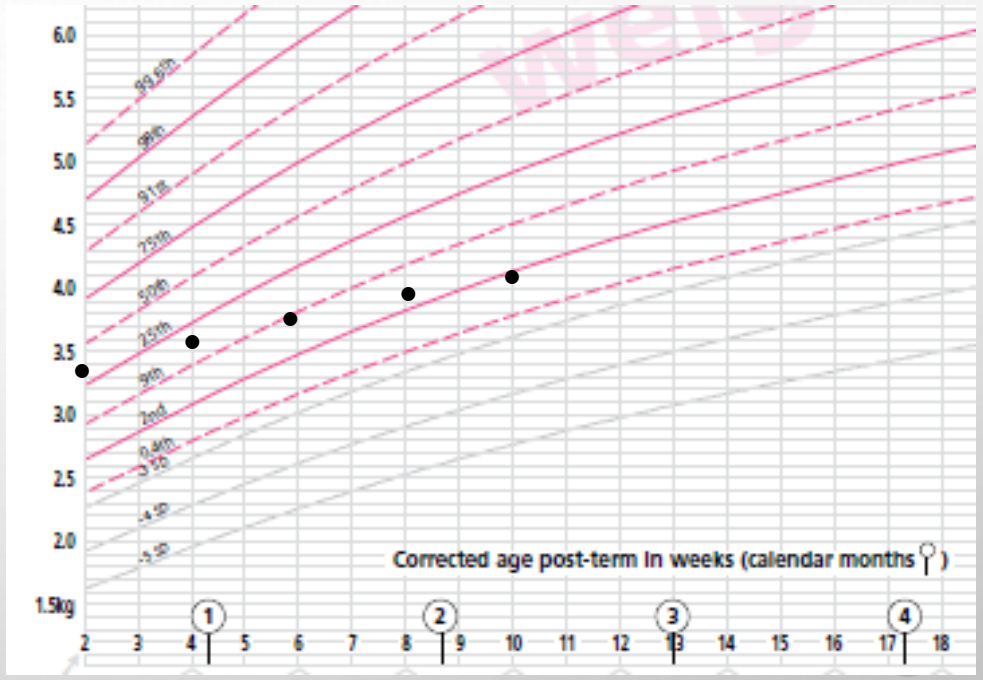
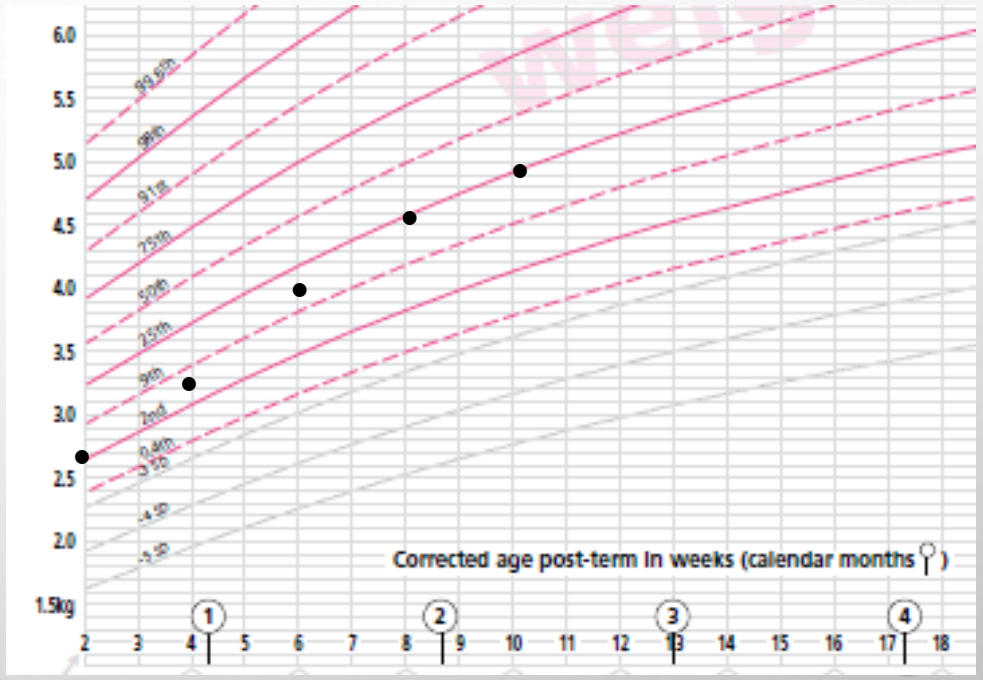


GROWTH

- Babies can normally hover around a centile line
- Length can be pretty inaccurate at times
- If crossing >1 centile lines then start to think is there a worrying cause
- Growth restricted babies <10% at birth can show catch up growth over a few months and may cross centiles upwards without cause for alarm



FEEDING

- Advocate for exclusive breastfeeding but acknowledge this is not always possible or enough
- Preterm infants may need bottle top-ups of breastmilk or formula (20-40mL) after breastfeeds for a few weeks until they have established strong breastfeeding skills
- Breastfeed a minimum of 8 feeds/day which may increase to 10 as feeding improves
- It is normal to demand feeds 1.5-3 hourly
- If fully bottle feeding aim for 150ml/kg/day but do not fixate on the volume taken per bottle but the overall picture

FEEDING

- The answer is in the weights which need to be 1-2 times a week in the first few weeks after discharge to ensure a good pattern is emerging and to help decide if bottle top ups are still needed
- Support can come from Neonatal Outreach, Well Child Providers, GP Practice
- Solids - aim for 6 months chronological age as most babies will be developmentally ready then as opposed to 6 months corrected age
- Follow their feeding cues rather than a number

REFLUX – TRICKY TOPIC

- Spills are common, reflux is overdiagnosed
- 50% babies under 3 months will spill once a day
- All babies have physiologic reflux due to immature oesophageal sphincter
- When this becomes pathological is hard to tease out
- Reflux can be more of a problem in ex-prems compared to term babies
- No evidence based treatment strategies have been proven to help reflux
- Small, frequent feeds may help

REFLUX – TRICKY TOPIC

- Gaviscon is fairly benign and may help spilling
- Acid suppression is not risk free - increased risk of infection
- If severe enough to need acid suppression suggest refer to paeds
  - Helps GP's have support to not be pressured into prescribing
  - However delays to be seen in Paeds can be intolerable for the family
- Any prescribing of omeprazole/ranitidine should be with a good dose for a 2 week trial and then reassess - if not definitely better then stop
- Omeprazole – 1-2mg/kg once a day
- Ranitidine – 2-4mg/kg twice a day

MEDICATIONS - IRON

- Give to those <36/37 weeks or <2500g
- Start at 4-6 weeks of age until 6-12 months of age
- Dosing is based on the elemental iron component
- Comes as 150mg/5ml but dose off the 30mg/5ml elemental iron
- Usually 2mg/kg daily elemental iron and tend not to increase dose for weight
- Very preterm babies may be on 4mg/kg daily
- Formula contains 1mg/kg/day iron so no need to supplement as well


NPN 00758469
500 mL
FERODAN
SYRUP
FERROUS SULFATE
ORAL SOLUTION USP
SOLUTION ORALE DE
SULFATE FERREUX USP
30 mg / mL
Iron/Fer 6 mg / mL
ODAN

MEDICATIONS - IRON

- 2ml dose is often the most that the babies will “accept”
- Babies dislike the taste
- Stools become firmer and darker
- May have to supplement with lactulose to continue giving iron
- Compliance can be poor
  - need to weigh up risks/benefits of continuing knowing that iron deficiency impairs brain development

MEDICATIONS - IRON

- Auckland NICU study (2013, 61 babies)
  - Investigated iron stores at 4 months corrected age in those born <37 weeks who were admitted to the NICU
  - At that time routinely treated babies <32 wks or <1800g with iron
  - 90% of those supplemented had good iron stores – it is worth it!
  - 40% not supplemented were iron deficient
  - Now Akld plan to give to all <37 weeks or <2500g to 1 year of age

MEDICATIONS – VITADOL C

- Supplements Vitamins A, C, D
- 0.3ml daily until on solids (400IU/day = RDI for infants)
- No need to increase dose for weight
- Tastes yummy, very few compliance issues
- Akld NICU study – treated babies <32 weeks or <1800g
  - All babies on Vitadol C had normal Vitamin D levels
  - Babies who breastfed without Vitadol C were all Vitamin D deficient
  - Babies who bottlefed without Vitadol C were Vitamin D appropriate

IMMUNISATIONS

- Give routine immunisations at the chronological age set in the immunisation schedule.
- No contraindications around gestational age or size
- Ab response may be lower compared to term babies but protective levels are achieved so it is worthwhile for these vulnerable babies
- Concerns about apnea after immunisation:
  - More so if very preterm, chronic lung disease, already having apneas
  - About 15% chance of recurrent apnea after the second immunisation (more of a concern for the extremely preterm infant who may still be in NICU)

ROTAVIRUS VACCINE

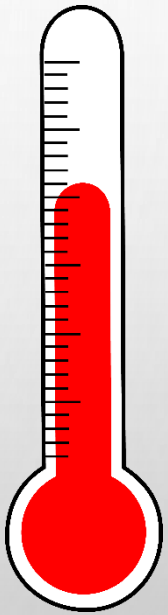
- Rotavirus is a live attenuated vaccine that is shed in the stools for weeks
- Low risk of transmission from stool to other vulnerable NICU babies
- May need catch up doses after a NICU admission depending on the unit policy
- To avoid any shedding in NICU either give at:
  - Discharge
  - By Day 104 (15 weeks of age) if still an inpatient
  - Note to GP on discharge letter that rotavirus needs to be given with GP either as a standalone catch up dose or to start with the next immunisations

RED FLAGS – REFERRAL TO PAEDS

- Weight loss
  - By time of discharge should be maintaining weight with improving weight gains as feeds are well established
  - >10% weight loss at any age is a concern and needs investigating
    - Milk supply issues, feeding technique issues, baby unwell
  - Severely dehydrated babies will still continue to pass urine so do not be fooled, always weigh the baby

RED FLAGS – REFERRAL TO PAEDS

- Fever in a neonate (up to 1 month corrected age)
  - Sepsis risk is high, do not dismiss it
  - Group B Strep meningitis can present up to 6 weeks of age
  - Easier for babies to progress to meningitis if septic
  - Urine samples need to be catheter or bladder puncture to be meaningful
  - IV antibiotics usually needed rather than oral



RED FLAGS – REFERRAL TO PAEDS

- Groin lumps
  - Inguinal hernias are commoner in preterm infants, especially boys
  - Take parents history seriously if they have seen a lump that is no longer there
  - Refer to paed surgeons who repair within weeks to avoid a strangulated hernia
  - Usually a day case but will need admission if have cardiorespiratory concerns

RED FLAGS – REFERRAL TO PAEDS

- Jaundice
  - Preterm infant should be investigated if jaundiced past 3 weeks or pale stool/dark urine at any time
  - Suggested cut-off level to investigate is bilirubin >150umol/L
  - Need to exclude conjugated hyperbilirubinaemia (bili >20umol/L) - many causes including biliary atresia, hypothyroidism, haemolytic anaemias
  - Breast milk jaundice is a diagnosis of exclusion
  - Tests: bili/conjugated bili, LFT, FBC + film, retics, T4/TSH, Guthrie result

SUMMARY

- Late preterm infants may not have specific paediatric follow-up
- Accurate plotting of corrected growth parameters is crucial to track progress
- Some babies cross centiles and this is not always pathological
- Vitadol C and Fe supplements until 6-12 months have proven benefit
- Immunisations should go ahead as per the national schedule
- Do not hesitate to refer to Paediatrics if there is:
    - weight loss >10%, fever, prolonged jaundice, hernias