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Child and Youth

Guideline

Assessing infant/child nutrition, growth and development within the primary health care setting

Child Health Sub Network

Queensland Government

Guideline: Assessing infant/child nutrition, growth, and development within the primary health care setting

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We acknowledge the Traditional Owners of the land on which we walk, talk, work and live. We pay respects to Elders past, present and all generations of Aboriginal and Torres Strait Islander peoples now and into the future.
(Artwork produced for Queensland Health by Gilimbaa)

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Purpose

Health monitoring and developmental surveillance supports the early identification and subsequent response to identified needs to enhance optimal health outcomes for the child[1-3]. Additionally, universal well child health checks provide the ideal opportunity to enhance a child's health and wellbeing by building on parenting capacity through the delivery of health education and anticipatory guidance.

This guideline has been developed to promote and facilitate a standard approach to assessing nutrition, growth, and development within the primary health care setting, for infants and children aged between 0-5 years. The assessment ages are in line with the well Child Health checks in the Personal Health Record[4].

Scope

This guideline has been developed to guide the clinical practice of Queensland Health Child Health Nurses, Registered Nurses, Midwives, School Based Youth Health Nurses, and Aboriginal and Torres Strait Islander Advanced Health Workers/Practitioners within the Primary Health Care setting.

Related documents

This guideline is to be read in conjunction with the following related documents, and applied in the context of locally available resources, clinical expertise, and relevant legislation, policies, procedures, guidelines, and nursing standards:

- Child and Youth Practice Manual[1]
- Child Health Sub Network Breastfeeding Position Statement[5]

Additional related document for clinicians practicing in rural and remote areas and Aboriginal and Torres Strait Islander children:

- Chronic Conditions Manual 2nd edition: Section 2 Child Health checks[6]

Assessing infant/child nutrition, growth, & development within the primary care setting

Prior to the consultation:

- Review all relevant history from the client's medical record.
- Plan to ensure appropriate cultural and linguist supports are provided e.g., Interpreter, Aboriginal and Torres Strait Islander Advanced Health Worker/Practitioner or Cultural Translator as needed by the client.
- Provide an environment that considers family privacy and confidentiality, encourages engagement, and demonstrates recognition of the significant role that the father/partner, extended family and wider community have in the health and wellbeing of a child[1,2].
- Ensure all available growth data is plotted accurately on the recommended growth chart for age and gender. (See Appendix 2)

During the consultation:

- Use appropriate communication strategies to support optimal assessment and to support family centred, safe clinical care [1, 7]. Examples of these are the AIDET and SBAR frameworks available from http://qheps.health.qld.gov.au/childrenshealth/html/nursing/nursing-aidetsbar.htm
- Engage with the family to develop a therapeutic relationship that demonstrates inclusive, culturally responsive, and family-centred care acknowledging the diversity of all family structures[1,2,8].
- Engage with the family using a partnership approach to build rapport and to elicit and explore parental concerns[1,2,9-11]
- Work from a strengths-based perspective to build on parenting capacity and skills[1,2,9-11].
- Undertake a comprehensive family health and psychosocial assessment to support the ongoing plan of care in collaboration with the family[1,12].
- Throughout the assessment process, undertake and document clinical observations of the parent/carer and infant interaction[1,13].
- Discuss the outcome of the assessment/screen with the parent/carer, including any necessary referrals or follow-up required.
- Work collaboratively with the family to plan, implement, and evaluate an individualised plan of care for the child and family[1,2].
- Document all assessment findings and care planning: subjective and objective information, assessment, plan, and evaluation.

Referral and follow up:

- Recognise when there is a need for escalation, or if there is uncertainty regarding any aspect of the assessment or findings and seek clinical advice.
- When further assessment is indicated arrange for referral/s as per the Child and Youth Health Practice Manual[1] and local HHS referral recommendations and pathways.
- Check in with the family to ensure that they have understood the rationale for the referral and/or follow up required and answer any questions they may have.

Nutritional assessment

- Nutritional assessment requires a holistic approach inclusive of social, cultural, and environmental factors[1].
- Support, protect and promote breastfeeding through undertaking a comprehensive assessment of breastfeeding and lactation and exploring breastfeeding goals with the parent/carer[1,5].
- Provide the parent/carer with support to establish and maintain breastfeeding and lactation.
- Provide parent/carer with bottle feeding support as required.
- Assess nutritional intake (quality & quantity) at each child health check and opportunistically. Explore with open-ended questions e.g. “What signs does your baby show when they are hungry?” and ask closed-ended questions if you need specific details e.g. “How many wet nappies does your baby have each day?”
- When there are any concerns regarding the infant/child’s growth, either poor growth or high rates of growth, explore possible reasons for this with the parent/carer.
- Explore the child and family’s eating habits with the parent/carer.
- Provide anticipatory guidance, health education, and health promotion regarding healthy eating practices at each child health check and opportunistically[14-16].

Refer to Appendix 1 for additional nutritional assessment information and relevant resources

Growth and physical assessment

- Conduct the physical assessment in partnership with the parent/carer, providing an explanation regarding the process and the findings.
- Follow the local HHS infection control policies and procedures and the Australian Guidelines for Prevention and Control of Infection in Healthcare[17].

NOTE: The importance of hand hygiene in reducing the risk of infection[18].

Growth assessment:

- Perform growth measurements: weight, length/height and head circumference (HC), and plot data on the growth chart at the routine well child health checks recommended in the PHR[4] at 0-4 weeks, 2 months, 4 months, 6 months, 12 months, 2 ½ - 3 ½ years and 4-5 years. These recommendations are for otherwise healthy children.

Refer to Appendix 2 for additional practice points on growth assessment

Correcting for prematurity
Allowance for gestational age for *growth and development* is made for premature infants (born before 37 weeks gestation until 2 years old)[19,20].

During the physical assessment:

- Perform a physical examination using a systematic body systems approach – head to toe then front to back when performing a physical examination[21-23].
- Age specific assessment items required at each well child health check, as well as a detailed overview of the 'head to toe' physical assessment, is outlined in **Appendix 3**
- Take the opportunity to provide the parent/carer with developmentally appropriate anticipatory guidance[1].
  - Promote the value of parent/carer and infant attachment[24-25]
  - Observe and discuss infant cues and behaviour with the parent/carer and document clinical observations
  - Demonstrate developmentally appropriate skills, such as tummy time and supported sitting
  - Promote infant safety and injury prevention, such as safe sleeping practices and falls prevention
- Role model positive interaction with the infant/child and observe interactions between the parent/carer and infant/child[1,13].
  - Talking and making eye contact infant/child
  - Explain to the infant/child what is happening and seek consent where appropriate
  - Observe and discuss infant cues and behaviour with the parent/carer

Referral and follow up:

- Document physical assessment findings and plot growth measurements on the appropriate growth chart, in the infants/child's medical record, and the PHR.
- When atypical growth is identified, or an element of the physical assessment is not within expected parameters, arrange for referral to the primary health care provider and/or review and monitor as appropriate[1].

Additional considerations for rural and remote populations and Aboriginal and Torres Strait Islander children:

- All Aboriginal and Torres Strait Islander children are eligible for a health assessment by a GP/Practice Nurse/Aboriginal Health Worker/Practitioner every 9 months as part of the 'Aboriginal and Torres Strait Islander Peoples Health Assessment'[1].
- Perform additional assessment/screening as indicated for infants and children living in rural and remote Queensland populations and Aboriginal and Torres Strait Islander Children, as per the Chronic Conditions Manual: Prevention and Management of Chronic Conditions in Rural and Remote Australia - Section 2[6].

Refer to Appendix 3 for additional assessments required in rural and remote populations and for Aboriginal and Torres Strait Islander children

Developmental assessment

- The early years from birth to the commencement of school provides the foundation for lifelong health and well-being. It is a period of significant opportunity but also vulnerability for a child's development, growth, health, and general well-being, all of which are affected by a complex interaction of biological, psycho-social, and environmental factors [1,25-26]. The experiences and interactions children are exposed to in the early years provide the scaffolding upon which to build and nurture their development[25,26].
- Regular child health developmental surveillance and developmental screening, undertaken in the early years offers an opportunity to identify and respond early for those children with developmental delay or disorder[23,24].
- Developmental screening should be undertaken in conjunction with developmental surveillance whereby a child's developmental progress is monitored over time[25]

- Developmental screening and surveillance requires knowledge and understanding of typical infant/child development.

  Refer to Appendix 4 for information regarding typical infant/child development.

- Universal well child health developmental checks are undertaken at key ages as per the PHR. When undertaking a developmental assessment, use the HHS specific developmental assessment profile form. The developmental profile form provides a template to document assessment findings and other relevant information: nutrition, feeding, growth and physical assessment, parent/infant interaction, child development, anticipatory guidance, health promotion and health education provided to the parent/carer.

Developmental assessment involves[1,25,27,28]:

- Parent/carer report of current development
- Obtaining developmental history
- Exploring parental/carer concerns
- Clinical observation of the infant/child
- Documenting in the infant/child's medical record all developmental assessment findings, together with specific advice, information and education provided to the parent/carer.

Developmental screening:

- PEDS, ASQ-3 and ASQ-TRAK are the developmental screening tools recommended for use in the community child health practice setting[1,28,29,30].
  - The PEDS screening tool is the ***primary*** developmental screening tool used at the 6, 12, 18 months, 2 ½ - 3 ½ year, and 4-5-year universal well-child health check[1].
  - If child development concerns are identified through the PEDS screen, a **secondary** screen is recommended in 2-4 weeks using the ASQ-3 screening tool[28].
  - It is recommended that ASQ-TRAK be used as the ***primary*** developmental screening tool for Aboriginal and Torres Strait Islander children in local HHS' that have appropriately trained staff and have been accredited for its implementation[29,30] ASQ-TRAK is a developmental screening tool validated for use with Aboriginal and Torres Strait Islander children[9,30]. It is based on the ASQ-3 screening tool and adapted to create more culturally appropriate questionnaires.

- The ASQ-3 is the recommended ***primary*** developmental screening tool for children with congenital heart disease as part of the **'Long-term care pathway for children with congenital heart disease following open heart surgery before 12 months of age'**[1,31]
- If child development concerns are identified through the ASQ-3 or ASQ-TRAK screen, consider rescreening in several months to monitor developmental progress, as clinically appropriate[19].

- Developmental screening tools are intended to support clinical decision making, however clinical judgement is paramount in all clinical decision making[32]. If a clinical decision is made to override the recommended PEDS pathway, the reason for not following the pathway must be clearly documented in the infant/child's medical record[33].
- All child health clinicians utilising the PEDS, ASQ-3 and ASQ-TRAK developmental screening tools must be appropriately trained in their use[28-30].

Referral and follow up:

- When further assessment is indicated, arrange for appropriate follow up and referral/s as per the Child and Youth Health Practice Manual[1] and local HHS referral recommendations and pathways.
- In addition to referral to the primary health care provider for medical review consider referral to an early intervention service to facilitate the early response to an infant/child's identified developmental need.

Health promotion and health education

- Health promotion delivered through health education and anticipatory guidance are an integral component of all universal well child health checks and provide the ideal opportunity to enhance a child and family's health and wellbeing[1,22].
- Utilising health promotion and injury/illness prevention strategies works to empower parents/carers to make informed decisions for the health and wellbeing of themselves and their infant/child by[1]:
  - Increasing health awareness and health literacy
  - Build on parenting skills
  - Enhancing the capacity of the family and community.
- Utilise evidence-based information to provide anticipatory guidance and health education that is supported by use of culturally and linguistically appropriate resources and tools [1,2,10].
- When providing anticipatory guidance and health education information it is important to consider the individual health literacy requirements of the parent/carer [34].

Refer to Appendix 5 for extensive list of health promotion topics when attending well child health checks

Promotion of parent/child interaction:

- Positive early childhood experiences and the development of a healthy parent/child relationship has the most influence on the health and wellbeing of an infant/child over their life course[1,26].
- One of the most influential health promotion strategies is to support the healthy development of the parent/child relationship and empower parents/carers to provide a safe, nurturing environment and enriching social and developmental experiences to support their child's development [1,26].
- Well child health checks provide the ideal opportunity to undertake and document clinical observations of the parent/carer and infant interaction[1,13]and promote the importance of the parent/child relationships as a foundation for their child's development and wellbeing[26].
- Cultural support from an Advanced Health Worker/Practitioner is an important consideration when undertaking clinical observations of the interaction between an Aboriginal and/or Torres Strait Islander parent/carer and their infant/child to ensure the documented observations demonstrate understanding of culturally appropriate parenting practices.

Consultations

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Appendices

Appendix 1

Assessing nutrition from birth to 5 years of age [1,14-16]		
Age	**Assessment & Screening**	**Health promotion**
Birth to 12 months	Infant feeding assessment • Type of feeding and assess nutritional intake Comprehensive breastfeeding assessment ***Note: When attending a BF assessment at any child health check consider use of a:*** • ***Clinical Assessment of BF and Lactation form/tool*** • ***Validated screening tool for Ankyloglossia if indicated*** Bottle feeding support as required Elimination number of nappies; wet / bowel motions **From around 6 months:** • Solid introduction • Mealtime environment [35]	**From birth:** • Promotion and protection of BF and lactation • Optimal infant nutrition • Importance of responsive feeding • Maternal nutrition & hydration • Safe use and storage of EBM • Safe use of infant formula including availability, preparation & storage • Cleaning & sterilizing feeding equipment • No solids, no cow's, animal or plant-based milk • Solid introduction of iron rich foods at around 6 months • Allergy prevention **From around 6 months:** • Promote and provide support for continuation of BF • Introduction of iron-rich solid foods and introducing common allergen foods by 12 months • Encourage self-feeding, fingers foods and texture transition • Cooled boiled water from a cup and no cow's, animal or plant-based milk to drink • Positive mealtimes experiences and healthy relationships with food including family eating habits[36] • Food preparation safety and choking prevention • Food security (availability, access) • Responsive feeding, taking cues from the child and not forcing them to finish meals or drinks.
12 months to 5 years	Child feeding assessment • Assess dietary and nutritional intake • Mealtime environment [35] Ongoing BF support as required Elimination – as age appropriate	**From 12 months (as age appropriate):** • Promote and provide support for continuation of BF • Transition to independent eating of healthy family foods, encouraging variety of foods from the core food groups • Cessation of formula and bottles • Recommended dairy dietary intake for age and promote focus on including within dietary sources e.g cheese, yogurt • May introduce cow's milk to drink (full cream until 2 years), fortified plant-based milk substitutes until 2 years if using • No soft drinks, juice or cordial • Positive mealtimes experiences and healthy relationships with food including family eating habits[36] • Food preparation safety and choking prevention • Food security (availability, access) • Physical activity[37] and 'body satisfaction'[1] • Responsive feeding, taking cues from the child and not forcing them to finish meals or drinks.

Additional resources for nutrition assessment, surveillance, and health promotion

Feeding & nutrition:

- NHMRC - Infant Feeding Guidelines[14]
- Australian Dietary Guidelines resources[15,16]
- Global Health Media breastfeeding videos
- QLD Health - Nutritional Education Materials Online (NEMO)
- QLD Health - Maternal and infant nutrition
- Australian Breastfeeding Association (ABA)
- Lactation Consultants of Australia and New Zealand (LCANZ)
- 'Growing strong: feeding you and your baby' resources for Aboriginal and Torres Strait Islander families
- Metro South Health - Multicultural nutrition resources
- Good Start Program resources for Maori and Pacific Islander families
- Centre for Children's Health and Wellbeing (CCHW) - Baby's first foods flip chart
- Raising Children Network

Allergy prevention:

- Australian Society of Clinical Immunology and Allergy (ASCIA)
- Nip Allergies in the Bub

Physical Activity:

- Australian Government Department of Health - Physical activity and exercise guidelines for all Australians: For infants, toddlers and preschoolers (birth- 5 years)[37]
- Raising Children Network - physical-activity

Relationships with food and body satisfaction:

- Ellyn Satter Institute - 'The Satter Division of responsibility in feeding'[36].
- Confident body, confident child – strategies to promote positive body image, healthy eating and physical activity

Appendix 2

Practice points for growth assessment [1,14,38]

- Normal physical growth is an important indicator of an infant/child's overall health and nutritional status.
- Physical growth is best assessed by measuring weight, length/height and head circumference (HC).
- A series of physical measurements over time is needed to assess and monitor a child's growth.

Weight:

- Following birth infants can lose up to 10% of their birth weight.
- By day 4-6 they should start to regain this weight and should have regained their birth weight by 2 weeks.
- In general, infant weight gain is assessed on a 4 week average as the amount of weight gain per week is variable.
- An approximate guide to average infant week gain per week can be used if a validated growth chart is not available:
    - 150g – 200g/week to 3 months
    - 100g – 150g/week from 3-6 months
    - 70g – 90g per week from 6-12months

Growth charts:

- The recommended growth chart for infant/children up to 2 years of age is the WHO 0-2 years growth standard.
- The recommended growth chart from 2 years of age is the CDC 2-20 years growth chart.
- Infant/child born premature (born before 37 weeks gestation) will have their growth corrected until 2 years of age[20].
- To correct age for prematurity subtract the number of weeks the infant was born prematurely from the chronological age (in weeks) and assess the child's growth and development for the corrected age.

Corrected age = Actual age in weeks - number of weeks premature

For further practice points refer to CHQ Procedure: Corrected Age for Assessment of Preterm Infants[20]

- Measurements attended at pre-term corrected age can be plotted on a validated growth chart such as the Fenton Preterm Growth Chart from 22-50 weeks[38,39].
- Other growth charts are available for children with specific conditions[38].

Interpreting growth charts:

- After measuring the infant/child and plotting measurements on the appropriate chart for age and gender, assess the child's growth curve against the growth percentile lines.
- Growth assessment involves looking at the overall tracking of weight, length/height and HC on a growth chart.
- Body Mass Index (BMI) for age (not standard adult BMI) can be calculated and plotted for weight and height from 2 years.

Practice points for growth assessment [1,14,38]

Assessment:

- Poor growth generally describes a child whose current weight, or rate of weight gain, is significantly below that expected of similar children of the same age and sex.
- Adequacy of growth is best evaluated by plotting serial measurements on a centile weight chart. A child who is tracking downwards on the charts may have poor growth and needs thorough assessment and evaluation for nutritional or other causes [38]

Indicators of poor growth:

- Weight and/or length tracking downwards on the percentile growth chart.

Indicators of excessive growth:

- Weight and/or length for age tracking upwards on the percentile growth chart.
- If measuring BMI for children over 2 years of age, a BMI above the 85th percentile.

Indicators for need for ongoing monitoring:

- Weight or length/height for age less than the 3rd percentile
- Weight or length/height for age greater than the 97th percentile

NOTE: There will always be a bottom and top 3rd percentile and these measurements do not necessarily indicate a growth problem.

Indicators that further investigation and referral is required:

- Unexplained weight loss, weight plateau or weight not re-gained following acute illness
- Growth chart patterns indicate poor or excessive growth
- Head circumference growth tracking upwards or downwards
- Head circumference above the 97th percentile or below the 3rd percentile
- BMI greater than the 85th percentile or lower than 5th percentile

Additional resources for growth assessment and surveillance

- Child and Youth Health Practice Manual[1]
- Chronic Conditions Manual: Section 2 Child Health Checks [6]
- The Royal Children's Hospital Melbourne - Child growth e-learning resource [34]
- The WHO Child Growth Standards
- Centre for Disease Control (CDC) Growth Charts

Appendix 3

Growth and physical assessment from birth to 5 years of age[21-23]					
Well child check	**Growth and physical measurements**	**Hearing and ear health**	**Vision and oral health screening**	**Physical assessment**	**Rural and remote populations and Aboriginal & Torres Strait Islander children**
0-4 Weeks	WHO growth chart Bare measurements: • Weight • Length • Head circumference (HC)	Hearing questions Check Universal newborn hearing screen completed	Vision questions	Neurological (posture/tone/reflexes) General appearance Skin Head/Fontanelle Face: Eyes/Ears/Nose/Mouth Neck/Chest/Abdomen Femoral pulses Genitalia Hips Extremities Back	Breathing Heart sounds Red eye reflex
2 months	WHO growth chart Bare measurements: • Weight • Length • HC	Hearing questions	Vision questions	Neurological (posture/tone/reflexes) General appearance Skin Head/Fontanelle Face: Eyes/Ears/Nose/Mouth Neck/Chest/Abdomen Femoral pulses Genitalia Hips Extremities Back	Breathing Heart sounds Red eye reflex **Aboriginal & Torres Strait Islander children:** Otoscopy
4 months	WHO growth chart Bare measurements: • Weight • Length • HC	Hearing questions	Vision questions	Neurological (posture/tone/reflexes) General appearance Skin Head/Fontanelle Face: Eyes/Ears/Nose/Mouth Neck/Chest/Abdomen Genitalia Hips Extremities Back	Breathing Heart Sounds Femoral pulses Red eye reflex **Aboriginal & Torres Strait Islander children:** Otoscopy
6 months	WHO growth chart Bare measurements: • Weight • Length • HC	Hearing questions	Vision questions CLR Lift the lip[40]	Neurological (posture/tone/reflexes) General appearance Skin Head/Fontanelle Face: Eyes/Ears/Nose/Mouth Neck/Chest/Abdomen Genitalia Hips Extremities Back	Breathing Heart sounds Femoral pulses Red eye reflex **Aboriginal & Torres Strait Islander children:** Haemoglobin Otoscopy Tympanometry

Growth and physical assessment from birth to 5 years of age[21-23]					
Well child check	**Growth and physical measurements**	**Hearing and ear health**	**Vision and oral health screening**	**Physical assessment**	**Rural and remote populations and Aboriginal & Torres Strait Islander children**
12 months	WHO growth chart Bare measurements: • Weight • Length • HC	Hearing questions	Vision questions CLR Lift the lip[40]	General appearance Behaviour Skin Head/Fontanelle Face: Eyes/Ears/Nose/Mouth Neck/Chest/Abdomen Genitalia Hips (until independently walking) Extremities Back	Breathing Heart Sounds Red eye reflex **Aboriginal & Torres Strait Islander children:** Otoscopy Tympanometry
18 months	WHO growth chart Bare measurements: • Weight • Length • HC (until 2 years)	Hearing questions	Vision questions CLR Lift the lip[40]	General appearance Behaviour Skin Head/Fontanelle Face: Eyes/Ears/Nose/Mouth Neck/Chest/Abdomen Genitalia Extremities Back Gait	Breathing Heart Sounds Red eye reflex **Aboriginal & Torres Strait Islander children:** Haemoglobin Otoscopy Tympanometry
2.5-3.5 years	CDC growth chart Clothed: • Weight • Height (from 2 years • BMI (from 2 years)	Hearing questions	Vision questions CLR Cover test (near) Lift the lip[40]	General appearance Behaviour Skin Head Face: Eyes/Ears/Nose/Mouth Neck Genitalia Gait	Breathing Heart Sounds Red eye reflex **Aboriginal & Torres Strait Islander children:** Otoscopy Tympanometry
4-5 years	CDC growth chart Clothed: • Weight • Height • BMI	Hearing questions Otoscopy+/- Tympanometry Audiometry screen	Vision questions CLR Cover test (near and far) Acuity screen Lift the lip[40]	General appearance Behaviour Head Face: Eyes/Ears/Nose/Mouth Neck Gait **Note: Clothed assessment unless additional concerns**	Breathing Heart Sounds Otoscopy Tympanometry **Aboriginal & Torres Strait Islander children:** BMI yearly from 4 years
Note: For Aboriginal & Torres Strait Islander Children use PLUM and HATS checklists during hearing screen from 6 months[1] ***https://plumandhats.nal.gov.au/download-plum-and-hats/***					

'Head to Toe' physical assessment [1,21,23,41-43]	
Neurological	Assess state of alertness, irritability, behaviour, muscle tone, posture and reflexes Primitive reflexes check until 6 months: Moro, Suck, Rooting, Palmar grasp, Stepping/Walking
General	Infant/child's response to parent/carer and social interaction, activity and range of spontaneous movement, symmetry of body parts and general colour
Skin	Assess integrity, turgor, warmth, perfusion, skin colour, observe for jaundice, birthmarks, pigmentation, dimples, ancillary nipples, dryness, irritations, rashes, infection/lesions, bites, bruises, cradle cap and any other anomalies **NOTE: The importance of the early identification and treatment of Streptococcal skin infections in Aboriginal and/or Torres Strait Islander children living in rural and remote areas and other high-risk populations in the prevention of Acute Rheumatic Fever/Rheumatic Heart Disease[51]**
Head	Assess head shape, symmetry, and control Fontanelles: posterior fontanelle closed by 8 weeks, anterior fontanelle closes 12-18 months Sutures – ridging or overlapping, prominence, haematoma Symmetry of facial features, symmetry of facial expressions at crying and at rest and note any unusual facial proportions e.g.; wide or close set eyes, low set ears, short palpebral fissures **Practice tip: assess head & face shape from the front, in profile and looking down from top of the head**
Eyes	Assess position and symmetry, appropriate eyelid retraction, ocular movements – fixing and following, persistent eye deviation requires follow up Pupils: equal and restrict in response to light, no cloudiness Iris: equal and circular, note genetic variances such as heterochromia Sclera: white/clear, no opacities, note subconjunctival/retinal haemorrhages Red eye reflex – completed by trained staff CLR from 6 months and cover test from 2.5 years to check for corrective movements indicating potential strabismus
Ears	Assess external pinna for shape, structure, size and position – ensure patency of the external auditory meatus, gently palpate around ear to check for any inflammation, swelling or suspected tenderness Observe ear canal for any inflammation, discharge, wax, fungal infections, foreign body
Nose	Shape and patency of nares and septum, nasal breathing in infants, note shape/depth of philtrum
Mouth	Hard and soft palate intact, mucosal lining of lips, cheeks, gums, tongue and frenulum. Note arch of palate and any other anatomical features that may impact functionality of tongue when feeding, note any inflammation or infection of mouth and throat Lift the Lip screening from 6 months
Neck	Assess for full range of neck movements, head tilt when supine, neck skin fold
Chest	Chest shape and symmetry, sternum, breathing, breast tissue, presence of ancillary nipples
Abdomen	Shape – protuberant/distended, palpate for potential masses, umbilical area – signs of infection, herniation, or granuloma

'Head to Toe' physical assessment [1,21,23,41-43]	
Genitalia	General appearance: rashes, signs of infection or trauma, passing urine and stools normally, inguinal hernia, congenital abnormalities, check position and patency of anus ensuring nil malformation Male: Palpate testes present and in scrotum, examination for fluid or swelling indicating potential hydrocele, assess for potential hypospadias or chordee **NOTE: testes undescended at birth should self-resolve by 12 weeks, acquired undescended testes can occur at any age supporting ongoing examination at routine health checks[44]** Female: observe for fused labia and other childhood vulva conditions/diseases[45]
Hips	Hip abduction - infant supine and hips flexed to 90 degrees. Assess for asymmetry or limitation in abduction **Note for clinicians working in rural and remote populations: The Ortolani & Barlow manoeuvres are recommended as well as hip abduction until 12 weeks of age by trained staff or by the primary health care provider[47]** Limb length (Galeazzi sign) - infant supine, hips and knees flexed to 90 degrees or with feet abducted to buttocks. Assess knee height is equal Prone: straighten legs and observe symmetry and depth of gluteal folds, observe thigh creases **Note: Asymmetrical skin folds can be normal** **Surveillance for DDH should be continued at each health check until child is independently walking[46]**
Extremities	Check femoral pulses at 0-4 weeks and 2 months – strong and equal Assess symmetry and check for any abnormalities or deformities – extra digits (polydactyly), webbing/fusion (syndactyly), talipes, palmar crease pattern Observe weight bearing and gait as age appropriate
Back	Palpate spine to identify vertebrae aligned and present, check for any tenderness or swelling, observe symmetry of scapulae and gluteal folds, presence of sacral dimple– if present nil tuft of hair and base of pit visible

Additional education and resources

- Lift the Lip Screening Program resources[40]
- The Royal Children's Hospital Melbourne - Developmental Dysplasia of Hip (DDH) education module
- The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease

Parent/carer resources for oral health and ear health screening:

- Queensland Health - Care for Kids' Ears resources for Aboriginal and Torres Strait Islander families
- Queensland Health - Happy Teeth Program

Appendix 4

Development [1,22,41,42,48,49]				
Well child check	**Gross motor**	**Fine motor**	**Speech & language**	**Social/emotional**
0-4 Weeks	In the prone position infant can turn their head to the side	Hands mostly closed fists	Cries to express need e.g., comfort, hunger, tired cues Startles to loud noise	Infant momentarily looks at faces Shows preference for people to objects Turns head in response to familiar parental voice or smell Emerging social smile
2 months	In the prone position infant can lift and turn their head both ways In the supine position moves arms & legs, generally spontaneous motor activity	Hands more relaxed - often open Can grasp rattle if placed in hand	Cries to express need e.g., comfort, hunger, tired cues Vocalizes (gurgles and coos)	Social smile and seeks positive interaction and eye contact from parent/carer Imitates facial expressions Physiological regulation developing patterns of settling, feeding, and alertness Quiets to familiar voices
4 months	In the prone position the infant can weight bear on forearms with chest rise Little or no head lag when pulled to sit Attempting to roll	Reaches for toys Grasps and play with rattle Holds hands together in midline	Cries to express need e.g., comfort, hunger, tired cues Vocalises when alone Squeals with delight and laughs out loud Enjoys having 'conversations'	Shows excitement in response to people Interested in surroundings and activities First signs of infant's preference towards certain adults e.g., smiles, gestures Easily consolable when soothed
6 months	In the prone position the infant can weight bear with extended arms Pivots in prone Sits with support Able to weight bear on legs in supported standing	Transfers toys from one hand to the other Looks at and plays with his/her hands Attempts to turn page in book Bangs/shakes toy	Cries to express need e.g., comfort, hunger, tired cues Vocalizes with consonant sounds Blows raspberries, squeals, and growls Smiles / vocalizes to mirror Turns head to his/her name	Recognises unfamiliar people and aware of new environment Object permanence and separation anxiety emerging Infant shows clear preference for primary carer/s and sensitive to strangers Increasing need for infant to 'check in' with parent/carer with voice or visual cues Engages in 'peek-a-boo'

Development [1,22,41,42,48,49]				
Well child check	**Gross motor**	**Fine motor**	**Speech & language**	**Social/emotional**
12 months	Crawling Sit unsupported Pulls to stand or puts self into sitting Cruises furniture	Pincer grasp – picks up small objects with thumb and forefinger Probes object with forefinger Can hold crayon Feeding self	Constant & repetitive babbling Points for desired object Understands about 10 words Responds to name and recognises gestures	Shows emotions e.g., may give affection hugs/kisses Uses simple gestures e.g., waves 'bye bye' claps hands Actively seeks their primary caregiver when distressed Wary of strangers/new people
18 months	Walks well / runs stiffly Squats in play Seats self in chair Throws ball	Scribbles with crayon Builds tower of 3-4 blocks Turns pages in book (several at a time) Learning to use cutlery	Says 10-25 single words and some short phrases Understands about 50 words and can follow simple instructions Learning body parts and imitates animal noises	Development of imaginative/pretend play Beginning to protest e.g., 'no' and experiments with control over events and people Becoming less fearful with strangers Engages in parallel play with other children
2.5-3.5 years	Walks up and down stairs, alternating feet Throws and kicks a ball Jumps and lands with both feet together	Copies circles and lines Turns pages in book Unscrew jar and string large beads Awkwardly cuts with scissors	Follows 2-part instructions Uses 2–5-word sentences Understands and asks questions using 'what', 'where' and 'who' Tells a basic story	Notices gender differences Shows verbal self-identity when speaking e.g. 'I', 'me', 'mine' Possess a range of words for their own emotions Able to share and cooperate in play Can become wilful or possessive Able to separate from parent/carer more easily
4-5 years	Hops on one foot Broad jumps and lands with both feet Skips Throws and catches a ball well	Draws a 4–10-part person Learning to write name Cuts in straight line with scissors Undo buttons on clothing	Understands verbs, adjectives, and time related words Easy to understand and speaking in full sentences Uses personal pronouns (E.g., he/she/they) Has a simple conversation Asks lots of questions	Symbolic and imaginative play becomes more elaborate Increasingly aware of social expectations / responsibilities Friendships develop and strengthen Increasingly flexible and resilient under stress Beginnings of capacity to know that others have thoughts and feelings separate from their own Tolerates separation from parent/carer

Additional resources for developmental assessment and surveillance

- CHQ Staff resources - PEDS developmental milestone checklist[48]
- Centre for Community Child Health - PEDS Training eLearning
- ASQ screening tools and user guides
- The University of Melbourne - ASQ-TRAK
- CHQ - Ages and stages parent information sheets
- Speech Pathology Australia milestones kit[49]
- CDS - Red Flags Early Intervention Guide (for children aged birth to five years); Second Edition
- CDS- Talking the Talk resources for Aboriginal and Torres Strait Islander families

Appendix 5

Health promotion[1,2,3,22]	
Health education topics during well child checks from birth – 5 years of age **Note: This list is not exhaustive**	
General health promotion – physical health and development	Optimal infant/child nutrition (See Appendix 1) Safe storage of EBM, use of infant formula and cleaning/sterilising of feeding equipment (See Appendix 1) Physical activity and screen time recommendations (See Appendix 1) Oral health & Ear health Promotion of healthy parent/child relationships and positive early childhood experiences Importance of play and providing enriching interactions and environment on development[50] Activities to support development e.g tummy time, unrestricted floor play, fine motor play Activities to support speech and language development and early literacy e.g. 'turn taking', reading books and singing nursery rhymes Infant behaviour and normalising variances in temperament, crying and sleep Common parenting concerns: e.g. caring for the unsettled infant, teething, toddler tantrums, encouraging positive behaviours, promoting optimal sleep in infants and young children Toilet training
Social/emotional development and wellbeing of child and family	Acknowledge the importance of connection to culture, land, spirituality and community on a child and family's health and wellbeing[8,29]. Promotion of healthy parent/child relationships and the influence positive early childhood experiences have on a child's health, wellbeing and development Normalising limited ability of self-regulation in infancy and early childhood Promote the development of emotional regulation throughout infancy and childhood through positive parent/child interactions and responsive caregiving Promotion and support of parent/family physical and mental health Siblings and family transitions Body satisfaction and confidence (See Appendix 1)
Additional resources on the impact of early childhood experiences and brain development	
• Centre for Community Child Health - Brain Builders video clip • Center on the Developing Child at Harvard University - 5 Steps for Brain-Building Serve and Return • Centre for Community Child Health - Laying the Foundations eLearning • Circle of Security International • Connected Parenting eLearning: Circle of Security in the context of Aboriginal and Torres Strait Islander families • Child and Youth Practice Manual[1]: Health Promotion – Parent-infant interaction section (P.204-207) and Appendix 2 of CYPM 'Eleven key messages'	

Health promotion[1,2,3,22]
Opportunistic health education topics during well child checks from birth – 5 years of age

Note: This list is not exhaustive	
Promotion of safety and prevention of injury and illness	Immunisations and general illness prevention Prevention of Acute Rheumatic Fever/Rheumatic Heart Disease in high-risk populations e.g., promoting the importance of the early treatment of Group A streptococcus skin and throat infections and promoting healthy living practices e.g., washing of bedding and personal hygiene[51] Recommended health checks Child safety Domestic/family violence and prevention of children witnessing violence Body consent and personal safety Cyber safety Sun safety Reducing exposure to second-hand tobacco smoke Accident prevention: • Safe sleeping environments - prevention of Sudden unexpected death in infancy (SUDI) • Falls and head injury prevention • Land transport safety – car restraints, farm safety • Home safety • Button battery safety • Pet safety • Drowning/near drowning • Poisoning • Choking/suffocations • Burns

Additional resources for promotion of safety and prevention of injury and illness

- Queensland Government – Immunisations, included translated factsheets for CALD families and 'Bubba Jabs' resources for Aboriginal and Torres Strait Islander Families
- Queensland Centre for Domestic and Family Violence Research
- Red Nose resources
- Kid Safe QLD
- Raising Children Network
- Australian Competition & Consumer Commission (ACCC) - Button batteries
- Body Safety Australia
- Daniel Morcombe Foundation - Keeping Kids Safe resources and factsheets

Acronyms and Abbreviations

ASQ-3	Ages and Stages Questionnaire (3rd edition)
ASQ-TRAK	Ages and Stages Questionnaire – Talking about Raising Aboriginal Kids
BF	Breastfeeding
CDC	Centre for Disease Control
CDSN	Child Development Sub Network
CHSN	Child Health Sub Network
CLR	Corneal light reflex
CNC	Clinical Nurse Consultant
CYPM	Child and Youth Practice Manual
EBM	Expressed Breast Milk
HC	Head circumference
HHS	Hospital and Health Service
LTL	'Lift the Lip' oral health screening program
NHMRC	National Health Medical Research Council
NSQHS	National Safety and Quality Health Service Standards
PEDS	Parents' Evaluation of Developmental Status
PHR	Personal Health Record
QCYCN	Queensland Child and Youth Clinical Network
QCPIMH	Queensland Centre for Perinatal and Infant Mental Health
QLD	Queensland
WHO	World Health Organisation

Glossary

Definitions of key terms are provided below

Term	Definition	Source
Anticipatory guidance	"The information that clinicians give families about what they should expect in their child's development, what they should do to promote this development and the benefits of these healthy lifestyle and practices (Nelson, Wissow & Cheng, 2003).Routine parent and child education and counselling regarding feeding and nutrition, sleeping, nurturing, injury prevention, growth, learning, behaviour, discipline, communication, language development, and toileting" (American Academy of Pediatrics as cited in Combs-Orme, Nixon & Herrod, 2011).	Cited in Grant, J., et al. (2017). National standards of practice for maternal, child and family health nursing practice in Australia. Adelaide, Flinders Press[2].
Child Health surveillance	"The oversight of the physical, social, and emotional health and development of children, measurement and recording of physical growth, monitoring of developmental progress, offering and arranging intervention when necessary, prevention of disease by immunisation and other means, and health education" (Hall 1996, p.14).	Cited in Grant, J., et al. (2017). National standards of practice for maternal, child and family health nursing practice in Australia. Adelaide, Flinders Press[2].
Developmental delay	"a lag in the acquisition of a skill or milestone otherwise expected of a child at a particular age. This lag may be within a single domain, or may be across many areas of development (global developmental delay)"	Queensland Child and Youth Clinical Network - Child Development Sub Network (2020). *2 Act now for kids 2morrow: 2021-2030*. Brisbane, QCYCN[27].
Developmental disability	"children with complex and pervasive developmental difficulties that are likely to impact on a child's ability to participate optimally in functional activities across their life course"	Queensland Child and Youth Clinical Network - Child Development Sub Network (2020). *2 Act now for kids 2morrow: 2021-2030*. Brisbane, QCYCN[27].
Developmental surveillance	"a process of eliciting and attending to parenting concerns, making accurate and informative longitudinal observations of children, obtaining relevant developmental history and promoting development (NHMRC 2002)."	Cited in Queensland Child and Youth Clinical Network - Child Health Sub Network (2015*). Queensland Health Child Development Screening (PEDS & ASQ[3]) - Implementation Guide.* Child Health Sub Network. Brisbane, Queensland Health.
Screening	"The term 'screening' refers to the 'the examination of a whole population of apparently healthy children, using simple tests to distinguish those who probably have a condition from those who do not, so that the outcome can be improved by treating the condition before it produces obvious symptoms or signs'" (Hall & Elliman 2006 in Hall, Williams & Elliman 2009).	Cited in Grant, J., et al. (2017). National standards of practice for maternal, child and family health nursing practice in Australia. Adelaide, Flinders Press[2].

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Level of evidence

The Joanna Briggs Institute (JBI) levels of evidence have been applied to identify the study design of research included in the guideline. Where applicable, the level of evidence is indicated at the end of the reference in the reference list. The JBI Levels of Evidence can be accessed from: JBI global

Keywords and accreditation references

Keywords	Assessing, nutrition, growth, development, health promotion, child health, primary health care
Accreditation references	NSQHS Standards (2nd E.D.) (1-8): Standard 1: Clinical Governance, Standard 2: Partnering with Consumers, Standard 5: Comprehensive Care, Standard 6: Communicating for Safety