

Introduction

This handbook has been developed to assist and support all providers who deliver ‘well child care’ in accordance with the *Well Child/Tamariki Ora National Schedule*. ‘Well child care’ is a term used to describe a screening, surveillance, education and support service offered to all New Zealand children from birth to five years and their family or whānau.

The handbook should be read in conjunction with the following documents: *New Zealand Health Strategy (2000)*; *Primary Health Care Strategy (2001)*; *He Korowai Oranga Māori Health Strategy 2002*; *Pacific Health and Disability Action Plan (2002)*; *Child Health Strategy (1998)*; and *Well Child/Tamariki Ora National Schedule (1996)*.

Primary Health Care is one of five service priority areas in the New Zealand Health Strategy.

The primary objective for Well Child-Tamariki Ora service providers is to support families/whānau to maximise their child’s developmental potential and health status from birth to five years, establishing a strong foundation for ongoing healthy development. Pregnancy and infancy should be seen as key opportunities to act for change.

In order to achieve these, Well Child-Tamariki Ora service providers will fulfil the following obligations.

- Build on the strengths of each family.
- Inform and support parents to gain the knowledge and skills required to understand and manage the various stages of their child’s development.
- Reassure parents through health surveillance and clinical assessment that their child is developing normally, and ensure any health or developmental concerns are referred and addressed in a timely way.
- Promote positive parenting skills and attachment.
- Work with families/whānau to identify their needs for support, and either provide that support or facilitate access to support from other health or community services, especially for those children of families/whānau at risk of adverse outcomes.
- When children/young people are receiving services from other agencies, the service provider will participate in intersectoral collaboration and co-ordination initiatives such as Strengthening Families.
- Promote family/whānau understanding of Well Child-Tamariki Ora service entitlements, and assist them to access the provider’s own or alternative services if this is the client’s wish.
- Provide culturally appropriate services to all children and their families/whānau.
- Provide services in a way that recognises the needs of identified priority groups including Māori, Pacific, children from families with multiple social and economic disadvantage and children with high health and disability support needs.

- Improve integration, coverage and co-ordination of Well Child-Tamariki Ora services for the client population, including increasing uptake of immunisation and overall coverage rates.

The Well Child-Tamariki Ora service is described in detail in the *Well Child/Tamariki Ora National Schedule* (The Schedule).

- The Schedule divides the care into three parallel streams that are to be delivered as an integrated package of care for each child and their family/whānau. These streams incorporate the key public health concepts of supportive environments, disease prevention, and health promotion.
- The Schedule describes the core screening, surveillance, education and support entitlements (including timing). The Schedule outlines a total of 12 core contacts that every child and their family/whānau are entitled to receive from birth to five years.

This handbook describes each of the components of the Schedule including the age(s) when each component is to be delivered and recommended process for delivering the component. It should be remembered that components are often linked – for example child development is integral to child injury prevention, and a competent practitioner will have a good knowledge of both is essential.

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Practitioner Competencies

Throughout the handbook personnel considered appropriate to deliver each component of care are described. These include Lead Maternity Carers, well child providers, general practice teams, vision hearing screeners and authorised vaccinators.

It is the employer's responsibility to ensure practitioners are competent to deliver well child care. In particular, well child providers must ensure registered nurses and/or general practitioners form part of their team and that these practitioners have met the competency requirements of their professional bodies as outlined below. All other well child practitioners within the team must have received education relevant to the component of care they are providing and must receive guidance and supervision of their practice from the registered nurse or general practitioner.

Participation in relevant ongoing professional development as well as regular professional supervision is fundamental to maintaining current competence in well child care and is the responsibility of the employer, the practitioner and their professional body.

It is expected that all practitioners will have received specific education in:

- the principles of the Treaty of Waitangi and its implementation in achieving positive health gains for Māori
- how to identify, support and refer victims of interpersonal violence with a particular focus on child abuse and on partner abuse. The service must have protocols in place to ensure safety of children and to support staff in this intervention
- disability awareness to ensure disabled children and disabled carers are given appropriate access and support.

Practitioners also require competencies in assessment skills. Assessment of health need, and assessment of child health, are distinctive components of a health care model and take into account the environment, the community, and the family situation as this impacts on the health and development of the child. So that practitioners can develop such competencies, baseline knowledge of community health is required.

Lead Maternity Carer (LMC)

- an authorised practitioner who is vocationally registered as an obstetrician in the register of medical practitioners maintained by the Medical Council of New Zealand and who holds an a current annual practising certificate issued by that Council
- or**
- an authorised practitioner who is vocationally registered as a general practitioner in the register of medical practitioners maintained by the Medical Council of New Zealand (or its successor) and who holds a current annual practising certificate issued by that Council
- or**
- an authorised practitioner who is a midwife whose name is included in the register maintained by the Nursing Council of New Zealand and who holds an a current annual practising certificate issued by that Council

Paediatrician

- paediatrician who is a fellow of the Royal Australasian College of Physicians (or is working under supervision until competencies are achieved)

General Practice Team (GPT)

- general medical practitioner who has met the competencies for Child Health/Well Child approved by the Royal New Zealand College of General Practitioners (or is working under supervision until competencies are achieved)
or
- registered general and obstetric nurse, or registered comprehensive nurse who has met the competencies for Child Health/Well Child approved by the Nursing Council (or is working under supervision with a person with these competencies until competencies are achieved)

Well Child Provider Team (WCPT)

- general medical practitioner who has met the competencies for Child Health/Well Child approved by the Royal New Zealand College of General Practitioners (or is working under supervision until competencies are achieved)
or
- registered general and obstetric nurse, or registered comprehensive nurse who has met the competencies for Child Health/Well Child approved by the Nursing Council (or is working under supervision with a person with these competencies until competencies are achieved)
and
- community health worker or social worker if topics outlined in this handbook have been included in their qualification and they are, as a result of this education, competent to deliver certain components of care within a team that includes either of the two professionals outlined above
or
- Plunket 'Karitane', 'Kaiawhina' if topics outlined in this handbook have been included in their qualification and they are, as a result of this education, competent to deliver components of care within a team that includes either of the two professionals outlined above

Authorised Vaccinator

- a practitioner who has undertaken a formal vaccinator training programme, who undertakes regular re-accreditation, and has been approved by the Medical Officer of Health

Vision Hearing Tester

- vision Hearing Tester who meets Vision Hearing Screening National Protocol through the National Audiology Centre

Quality Requirements

The Well Child-Tamariki Ora service provider is required to comply with the General Terms and Conditions of the Ministry of Health and the Provider Quality Specification, or the Maternity Services Section 88 of the New Zealand Public Health and Disability Act 2000.

The following specific requirements also apply:

- informed consent from parents/guardians for the medical examination of children
- the Code of Health and Disability Services Consumers' Rights 1996
- the Children, Young Persons and their Families Act 1989
- Immunisation Standards 2002
- Section 125 of the Health Act 1956 with respect to the medical examination of children.

Neonatal Assessment

This component links to:

- Newborn Baby Hearing
- Newborn Baby Vision and Eye
- all components in Section Four.

Age(s) of child

Preferably within 2 hours of birth but certainly within 24 hours

Purpose

- To reassure parents through health screening and clinical assessment that their child has developed in utero normally, is satisfactory following birth, and if necessary ensure any health or developmental concerns are referred appropriately, and addressed in a timely way
- To detect early any significant clinical illness or congenital abnormalities, or risk of this.

Personnel

The Lead Maternity Carer (obstetrician, midwife or general practitioner) is responsible for ensuring this assessment is undertaken.

Recommended procedure

- Gain consent of parents/caregivers
- Provide care in a culturally appropriate manner and consult where indicated
- Record family history and obstetric history including:
 - hepatitis B, tuberculosis, other infective illness in particular *in utero* illness
 - congenital renal, cardiac, hearing or hip pathology
 - assessment of psycho-social and environmental risk factors including support systems, history of postnatal depression, family violence, Child Youth & Family involvement
- Undertake systematic and thorough clinical assessment which includes: colour, length, respiration, weight, tone, head circumference, Moro reflex, Grasp reflex, movements, skin, head, fontanelles, eyes – red reflex and risk indicators (see ‘Newborn baby vision and eye’ component), ears (see ‘Newborn baby hearing’ component), mouth, lungs, heart – cardiac assessment, abdomen, umbilicus, genitalia, anus, spine, limbs, hip joints (see ‘Hip screening’ component), femoral pulses

- Provide the following immunisation if applicable:
 - Hepatitis B vaccination and immunoglobulin for infants of hepatitis B positive mothers within 12 hours
 - BCG for infants in high tuberculosis-risk situations within 24 hours (see TB working party guidelines)
 - Ensure Vitamin K given, and if not, discuss requirements and options with parent
- Assess parent-child interaction – early bonding, initial (positive) parenting response
- Listen attentively and communicate effectively with parents/caregivers
- Discuss significance of findings with parents/caregivers
- Provide relevant information and anticipatory guidance to parents/caregivers
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathways.

Educational preparation needs to include:

- the normal neonate, and normal variation re:
 - anatomy
 - perinatal physiology
 - development
 - nutrition
- common neonatal pathology
- rare but important neonatal pathology – eg, early jaundice
- neonatal assessment techniques
- referral pathway for hip, renal, eye, hearing and genital problems
- response to history of hepatitis B and tuberculosis
- primary prevention including vitamin K usage, immunisation
- documentation procedures.

Resources

Stethoscope, ophthalmoscope, tape measure, scales.

Referral pathway

Consultation and/or referral to appropriate health professional if abnormal examination, or at risk of clinical illness.

Rationale

A complete initial examination of every neonate is now accepted as good practice in New Zealand. The assessment is a screening procedure with a number of individual components and has a high yield. Parents expect this assessment to be provided and they value the reassurance it gives them. A number of elements have yet to be validated.

Issues for resolution

For many aspects of the neonatal assessment there is little information justifying the procedures as a routine screening tool, although it seems intuitively sound. At present we are assuming that the assessment is justified and are awaiting validation.

Newborn Baby Metabolic Screening

Age(s) of child

2-4 days

Purpose

In some genetic disorders early diagnosis, sometimes even before symptoms begin, can lead to treatment that improves outcomes. In New Zealand screening of all newborn babies is undertaken after the second day of life for certain genetic diseases. These conditions include phenylketonuria (PKU), maple syrup urine disease (MSUD), biotinidase deficiency, cystic fibrosis (CF), congenital hypothyroidism (CH), galactosaemia, and congenital adrenal hyperplasia (CAH).

Personnel

The Lead Maternity Carer (LMC - obstetrician, midwife or general practitioner) is responsible for ensuring this screening procedure is undertaken.

Recommended procedure

- Providers must have current competency in collection of blood samples from newborn babies and practice correct disposal of blood collection equipment
- Follow the National Committee Clinical Laboratory Standards.

Educational preparation needs to include:

- informed consent processes
- blood collection onto filter paper
- correct disposal of blood collection equipment.

Procedure

Gain informed consent of parent. The LMC needs to ensure that consent is available if blood collected by someone other than them.

Samples are to be collected after 48 hours of protein feeding in a normal healthy baby and preferably as soon as possible after the 48 hours. If the baby is premature or ill or not feeding at 48 hours, a sample should be taken, and a second sample after 48 hours of protein feeding.

The sample must include the name and contact telephone number of the LMC. The telephone number must be one that will give immediate access to the LMC as urgent contact may be required for positive test results. Telephone numbers that have an answer phone most of the time are not acceptable.

Blood collection

1. Do not touch the specimen collection paper (circles).
2. Fill out all requested information on both sections of the test card.
3. Ensure caregiver has seen the factsheet *Your Newborn Baby's Blood Test*.
4. Warm foot if necessary.
5. Sterilise the puncture site (as in diagram) and wipe dry.
6. Make puncture with lancet (tip shorter than 2.4mm).
7. Gently apply collection paper to large drop of blood. Allow blood to soak through completely. If blood does not fill the circle another drop may be applied immediately. Collect from one side of the paper only and check the circle is completely filled on both sides.
8. Repeat step 7 to fill the other 3 circles.
9. Allow to dry in a cool place (2-4 hours).



The quality of the screening is critically dependent on sample quality. If the blood is not flowing freely and the blood becomes layered on the paper too much blood will be put into the tests and false positive results may occur. If the blood is not soaked right through the paper from one side not enough blood will be put in the tests and false negative (missed cases) results may occur.

Cardboard racks suitable for drying samples can be obtained from the National Testing Centre. In hot weather these should be put in the shade eg, into a chilly-bin out of the sun.

Mail cards DAILY to:

National Testing Centre
P O Box 872
Auckland

ph (09) 307 4949 x6570
fax (09) 307 4936

or

Courier delivery to:

Specimen Reception
LabPlus
Building 31 (Gate 4)
Auckland Hospital
Grafton Rd
Auckland

Referral pathway

Requests for follow-up will be made when an initial sample is unsuitable for testing or when there are abnormal test results. All positive tests for cystic fibrosis (CF) and biotinidase deficiency, and slightly abnormal results for the other screening tests will be communicated by letter. Notification of very abnormal results for maple syrup urine disease (MSUD), phenylketonuria (PKU), galactosaemia, congenital hypothyroidism (CH) and congenital adrenal hyperplasia (CAH) will be made by telephone.

MSUD, galactosemia and CAH are life-threatening and it is important the contact numbers supplied allow immediate contact with the LMC. The telephone call from the National Testing Centre will include a recommendation for paediatrician referral and for diagnostic tests.

Resources

Test cards and parent information sheets are available at no charge from the National Testing Centre.

Standards

Parent information sheets will provide appropriate information to ensure parents can make an informed decision and consent for this procedure.

The US National Committee on Clinical Laboratory Standards (NCCLS) has a standard for newborn baby blood collection onto filter paper.

There are no standards for the screening testing or follow-up although these are currently being developed by the Joint Newborn Screening Committee of the Human Genetics Society of Australasia and the Royal Australian College of Physicians: see <http://www.hgsa.com.au/> under HGSA Committees.

Documentation

It is not possible at this time for the National Testing Centre to compare test records with either birth information or health registration information in order to determine or ensure coverage by the screening programme. Local documentation will need to be kept to ensure all infants are tested.

The Centre keeps a record of follow-ups requested and received. When test results are very abnormal the Centre will ensure follow-up has occurred. If follow-up has not occurred within one month the Centre will send a reminder letter. Resources are insufficient to ensure complete follow-up.

Every month the Centre will send a list to LMCs of the babies who have been tested in the preceding month. This is a list only and does not have results. It is sent so LMCs can ensure all the infants in their care have had a test.

Rationale

Rationale, including a favourable cost-benefit analysis of newborn screening tests, is reflected in the recommendations of the Joint Committee referred to above.

These are:

- Screening is unequivocally recommended for phenylketonuria and primary congenital hypothyroidism.
- There are arguments in favour of screening for cystic fibrosis, congenital adrenal hyperplasia and galactosaemia.
- Screening tests for maple syrup urine disease and biotinidase deficiency exist, but evidence that the advantages of early diagnosis outweigh costs is at present insufficient to recommend their routine use.
- Some aspects of biochemical genetics and at-risk metabolic screening services are not presently provided in New Zealand. This is a factor in the decision to do some screening in New Zealand that is not recommended for Australia. The newborn screening tests provided in New Zealand are reviewed at the time of contract negotiations. Where screening does not benefit the screened infants (eg, they are detected by the metabolic service before the screen test result is available) the screening will be discontinued.

Postnatal Assessment

This component links to:

- Newborn Baby Hearing
- Newborn Baby Vision and Eye
- all components of Section Four.

Age(s) of child

Day 2-7, preferably day 5

Purpose

- To reassure parents through health surveillance and clinical assessment that their child is developing normally, and if necessary ensure any health or developmental concerns are referred appropriately, and addressed in a timely way
- To ensure breastfeeding is establishing
- To promote attachment and positive parenting skills
- To work with families/whānau to identify their needs for support, and either provide this support or facilitate access to support from other health or community services, especially for those children of families/whānau at risk of adverse outcomes
- To detect clinical illness or congenital abnormalities

Personnel

The Lead Maternity Carer (obstetrician, midwife or general practitioner) is responsible for ensuring this assessment is undertaken.

Recommended procedure

- Gain informed consent of parents/caregivers
- Provide care in a culturally appropriate manner and consult where indicated.
- Record family history and obstetric history including:
 - hepatitis B, tuberculosis, other infective illness in particular *in utero* illness
 - congenital renal, cardiac, hearing or hip pathology
 - assessment of psycho-social and environmental risk factors including support systems, history of postnatal depression, family violence, Child Youth & Family involvement
- Undertake systematic and thorough clinical assessment which includes: colour, length, respiration, weight, tone, head circumference, Moro reflex, Grasp reflex, movements, skin, head, fontanelles, eyes – red reflex and risk indicators (see 'Newborn baby vision and eye' component), ears (see 'Newborn baby hearing' component), mouth, lungs, heart – cardiac assessment, abdomen, umbilicus, genitalia, anus, spine, limbs, hip joints (see 'Hip screening' component), femoral pulses. Also ability to breastfeed

- Provide the following immunisation if applicable:
 - Hepatitis B and immunoglobulin for infants of hepatitis B positive mother within 12 hours
 - BCG for infants in high tuberculosis-risk situations within 24 hours (see TB working party guidelines)
- Ensure metabolic screen has been completed
- Assess parent-child interaction – early bonding, initial (positive) parenting response
- Listen attentively and communicate effectively with parents/caregivers
- Discuss significance of findings with parents/caregivers
- Provide relevant information and anticipatory guidance to parents/caregivers including:
 - recognising a sick child and when to seek medical help
 - recognising postpartum abnormalities for mother
 - making an informed choice and accessing a well child provider and a general practice team
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathways.

Educational preparation needs to include:

- the normal neonate, and normal variation
- anatomy of the baby
- perinatal physiology
- attachment theory
- development of infants
- nutrition of infants including breastfeeding
- common neonatal pathology
- neonatal assessment techniques including instrumented examination
- referral pathways for hip, renal, cardiac, respiratory, eye and hearing problems
- response to history of hepatitis B and tuberculosis
- vitamin K usage
- documenting procedure.

Resources

Stethoscope, ophthalmoscope, tape measure, scales.

Referral pathway

If abnormal assessment or risk of clinical illness, consult paediatrician or paediatric resident medical staff promptly. Specialist breastfeeding advice may be sought from a lactation consultant or midwife with additional expertise in breastfeeding.

Rationale

A complete assessment of every neonate is now accepted as good practice in New Zealand. The postnatal screening assessment is a safety net, to ensure identification of all infants with risk factors and abnormalities. The assessment is a screening procedure with a number of individual components. The yield is not as high as for the neonatal assessment in terms of identification of new problems.

Issues for resolution

Validity of the postnatal assessment elements.

Six Week Assessment

This component links to:

- Newborn Baby Vision and Eye
- all components of Section Four.

Age(s) of child

6 weeks - linked to 6 week immunisation event.

Purpose

- To reassure parents through health surveillance and clinical assessment that their child is developing normally, and if necessary ensure any health or developmental concerns are referred appropriately, and addressed in a timely way
- To ensure breastfeeding or appropriate form of infant feeding is established
- To promote positive parenting skills and attachment
- To work with families/whānau to identify their needs for support, and either provide this or facilitate access to support from other health or community services, especially for those children of families/whānau at risk of adverse outcomes
- To confirm enrolment with both a Well Child Provider and a General Practice Team

Personnel

The General Practice Team provides this assessment.

Recommended procedure

- Gain informed consent of parents/caregivers
- Provide care in a culturally appropriate manner
- Listen attentively and communicate effectively with parents/caregivers
- Undertake systematic and thorough clinical assessment which includes: colour – including prolonged jaundice, cardiac assessment, length – using a consistent measuring tool, respiratory assessment, weight, nutrition – feeding history, head circumference, fontanelles, hip joints (see ‘Hip screening’ component), eyes – red reflex (see ‘Newborn baby vision and eye’ component), ears (see ‘Newborn baby hearing’ component), neuro developmental assessment, abdominal assessment, genital assessment
- Record family history and obstetric history including:
 - hepatitis B, tuberculosis, other infective illness in particular *in utero* illness
 - congenital renal, cardiac, hearing or hip pathology
 - assessment of psycho-social and environmental risk factors including support systems, history of postnatal depression, family violence, Child Youth & Family involvement

- Assess parent-child interaction – early bonding, initial (positive) parenting response and parenting skills
- Assess support needs
- Discuss significance of findings with parents/caregivers
- Provide relevant information and anticipatory guidance to parents/caregivers including:
 - recognising a sick child and when to seek medical help
 - recognising postpartum abnormalities for mother including postnatal depression
 - enrolment with a well child provider and general practice team
 - check Metabolic Screen has been completed
- Provide community linkages
- Promote positive parenting
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathways.

Educational preparation needs to include:

- the normal infant, and normal variation re:
 - anatomy
 - physiology
 - development
 - nutrition including sound breastfeeding knowledge
- common infant pathology
- rare but important infant pathology
- infant assessment techniques
- attachment theory
- referral pathways for hip, renal, cardiac, respiratory, eye and hearing problems
- response to history of hepatitis B and tuberculosis
- primary prevention including vitamin K usage, immunisation
- documenting procedures.

Resources

Stethoscope, ophthalmoscope, tape measure, scales, otoscope.

Referral pathway

Appropriate referral of problems identified, with appropriate documentation. Specialist breastfeeding advice may be sought from a lactation consultant or midwife with additional expertise in breastfeeding.

Rationale

The screening component of this task is uncertain (on standard criteria) and it is probably of most value for its surveillance potential.

While no clear competencies have been determined for carrying out this assessment, current practice demonstrates positive outcomes. Most abnormalities would be picked up through routine inspection without a rigorous screening programme. The validity of this assessment as a screening test has yet to be determined other than for hip and cardiac screening. This assessment provides the final opportunity for detection of previously undiagnosed congenital abnormalities.

Growth

This component links to:

- all components of Section Four.

Age(s)

Schedule for Growth Measurements			
Age	Length	Weight	Head Circumference
Neonatal (2-24 hours)	✓	✓	✓
Postnatal (2-7 days)		✓	
2-4 weeks		✓	✓
6 weeks	✓	✓	✓
3 months		✓	✓
5 months		✓	✓
8-10 months		✓	✓
15 months	✓	✓	
21-24 months	✓	✓	
3 years	✓	✓	

Where there are concerns about a child's growth, more frequent measurements should be taken as part of full assessment of the child and their situation.

Purpose

- To reassure parents through growth surveillance and clinical assessment that their child is growing normally, and if necessary ensure any concerns are referred appropriately, and addressed in a timely way
- To detect inadequate nutrition, physical, emotional or growth disorders
- To promote breastfeeding.

Personnel

This assessment is provided by the Lead Maternity Carer for the first 4-6 weeks, and thereafter by the Well Child Provider registered nurse or general medical practitioner.

In early infancy, where the initial concerns are about feeding adequacy, management would be by a Lead Maternity Carer or Well Child Provider with input from a lactation consultant if required.

Recommended procedure

- Gain consent of parents/caregivers
- Provide care in a culturally appropriate manner
- Listen attentively and communicate effectively with parents/caregivers
- Undertake systematic and thorough assessment which includes:
 - Feeding history
 - Weight is measured using certified weight scales on the correct surface; and taking the naked weight of infants, or in a singlet and undies for children over 1 year
 - Head circumference is taken as the largest of three measurements using non-stretch or paper tapes. Cranial symmetry is also noted
 - Length is measured using a length board, or similar, with the infant appropriately positioned
 - Height (once standing) is taken with the child appropriately positioned with no shoes on using a standard tool such as a fixed measuring devise or KaWe or similar tape system
- Assess parent-child interaction – early and continued bonding, initial (positive) parenting response
- Discuss significance of findings to parents/caregivers
- Provide relevant information and anticipatory guidance to parents/caregivers
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathways.

Educational preparation needs to include:

- the normal infant, and normal variation including any ethnic variations re:
 - anatomy
 - physiology
 - growth
 - development
 - nutrition
- infant feeding including management of breastfeeding
- common morbidity reflected in abnormal growth
- common infant pathology
- uncommon but important infant pathology
- attachment theory/developmental delay and links to child protection/family violence
- infant assessment techniques
- measurement techniques
- recognition of concerns with growth
- referral pathways.

Resources

Annually calibrated scales; non-stretch tapes; fixed height measurement devices/length measurement table; appropriate growth charts.

Standards

All length and head circumference measurements should be accurate to +/- 0.5cm. Infants' weights should be accurate to +/- 10gm and children's weights to +/- 100gms. Measuring equipment should be regularly calibrated and certified. Measurements should be plotted on a standard growth chart.

Referral pathway

Refer for general practitioner review in the first instance, with referral on to a paediatrician as necessary.

It is important to refer if:

- a measurement crosses 2 centile lines moving away from the mean (both above and below)
- measurements are disproportionate by more than 2 centile lines
- there is clinical evidence of malnutrition or obesity
- at the 5 year assessment, a child is less than the third percentile for height.

Consultation with a lactation consultant may be considered for breastfeeding complications.

Rationale

Growth is linked to development, nutrition and to parenting competence. There is increasing evidence that links slower growth patterns to bonding difficulties between child and primary caregiver, and early indications of morbidity and child neglect.

Weight, length, height and head circumference

There is worldwide debate about the relative merits of various growth measurements in child health screening and surveillance; however, it is well recognised that the main purpose is reassurance for parents.

- **Weight**

Measuring birth weight relative to gestational age may indicate a range of *in utero* pathologic processes and may also indicate the risk of anticipated complications either early (such as neonatal hypoglycaemia in growth-retarded newborns) or later (such as increased risk for hypertension in later life).

Newborn weighing also gives an initial benchmark against which to compare later weights.

Measurement of later weights in isolation from information such as height and previous weight measurements provides little information as a single measurement, other than identifying a particular child as being within, or well outside, accepted norms for the particular age and culture.

Serial weight measurements in the first weeks and months of life give useful information regarding trends in weight gain and, by implication, nutrition. Inadequate nutritional progress, nutritional deficiencies, or failure to thrive, has implications for a child's long-term potential as well as being indicators for possible underlying morbidity eg, cardiopathy.

- **Length**

Birth length acts as a benchmark for later measurements. As a screening measurement, birth length has little to commend it in isolation. It may be clinically useful when compared to birth weight and calculated gestational age when assessing *in utero* deprivation.

In later childhood single length measurements in isolation have little application. However, it has been suggested that a school entry screen using referral criteria of height less than the third percentile is a rapid and effective screen for children with chronic illness not previously identified.

- **Head circumference**

Disproportionate head circumference, an asymmetrical head or an inappropriate progression of head circumference over time may reflect intracranial pathology or premature fusion of sutures. There are many normal situations in which these findings also rise.

- **Height and weight combinations**

The comparison of height to weight may be used to identify children who are significantly obese or undernourished. However some children who are chronically malnourished will also have relatively short stature, which diminishes the sensitivity of this screening measure.

- Height and weight trends

Health professionals use serial measurements of both height and weight in order to monitor a child's growth. This is done by plotting serial measurements on New Zealand population-based normative graphs with the assumption that children continue to grow across the percentiles. When a child crosses the percentiles this provides an alert that a fuller assessment may be required.

However, many children who cross the percentile lines on growth charts are simply displaying a normal growth pattern that does not follow available percentile lines. We do not have a current series of New Zealand normal measurements grouped by sex, ethnicity and feeding methods.

Of the two measurements, height on its own is not a significant indicator but is useful as a comparison and to identify trends. It is uncommon, outside the infancy period, for a child who has an organic condition causing disordered growth to present solely because of abnormal growth measurements. Most have other constitutional symptoms or concerns. Variations can be attributed to ethnicity; when assessing growth care is needed to ensure that graphs used do not mislead the clinical situation.

Development

This component links to:

- Child Injury Prevention
- Behaviour Management
- Strengthening Family Relationships.

Age(s) of child

If a surveillance model is used, then the notion of critical ages for assessment becomes irrelevant. Instead, surveillance takes place on any child contact and at least during the usual core well child contacts at:

- 6 weeks
- 3 months
- 5 months
- 8-10 months
- 15 months
- 21-24 months
- 3-4.5 years

and in additional family/whānau contacts.

Purpose

- To reassure parents through developmental surveillance and clinical assessment that their child is developing normally, and if necessary ensure any concerns are referred appropriately, and addressed in a timely way
- To detect early suspected developmental delay or intellectual disability

Personnel

This assessment is provided by the Lead Maternity Carer for the first 4-6 weeks, and thereafter by the Well Child Provider registered nurse or general medical practitioner.

Recommended procedure

- Provide care in a culturally appropriate manner
- Gain consent of parents/caregivers
- Elicit parent/caregiver concerns
- Record a developmental history
- Assess parent-child interaction – early bonding, initial (positive) parenting response eg, child initiated parental interaction
- Listen attentively and communicate effectively with parents/caregivers
- Undertake systematic and thorough hands-on examination
- Undertake and interpret the full range of age appropriate assessment, screening and surveillance procedures
- Discuss significance of findings with parents/caregivers
- Provide relevant information and anticipatory guidance to parents/caregivers
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathways.

Educational preparation needs to include:

- the normal infant, and normal variation including any ethnic variations re:
 - anatomy
 - physiology
 - growth
 - development
 - nutrition
- common infant pathology
- attachment theory
- rare but important infant pathology
- documentation of development
- common causes of developmental delay
- rare important causes of developmental delay
- developmental surveillance tools and techniques
- infant assessment techniques
- referral pathways
- documentation procedures
- increasing parental knowledge/learning of child development.

Resources

In a surveillance approach, the ability of health professionals to consider a child's present abilities against an understanding of 'normal for age and environment', and the ability to document concerns and refer as necessary, is essential. There is a need to be cautious about using any developmental screening or surveillance tool.

Referral pathway

Where assessments identify developmental delay children should be referred to a paediatrician. However if the delay may be contributed to by an environmental situation, parents are given information to improve the development of the child and timely reassessment is indicated to ensure developmental progress is being made.

Rationale

There is doubt over the value of formalised developmental screening programmes. The surveillance approach advocated here is believed to be less demanding of resources with similar specificity and sensitivity.

It is believed, though evidence is limited, that anticipatory guidance within developmental surveillance can promote parenting skills and may help prevent developmental delay due to neglect.

A policy of surveillance requires that all those involved in child health, education and welfare have a comprehensive working knowledge of child development and that they are able to access a professional with formal developmental assessment skills as required.

It has been argued that surveillance conceptually involves repeated watching over time in order to detect inappropriate change or lack of progressive development. Therefore there needs to be documentation of developmental observations from the first point at which concerns are raised. There would be no need to document normal findings other than to note that development appeared within normal range and is progressive.

Issues for resolution

Evaluation of New Zealand models of developmental surveillance versus developmental screening.

Hip Screening

This component links to:

- Postnatal Assessment
- 6 Week Assessment
- Development.

Age(s) of Child

Schedule for Hip Screening			
Age	Ortolani/Barlow	Classic Signs	Gait
Birth	✓	✓	✗
5 days		✓	✗
2-4 weeks		✓	✗
6 weeks	✓	✓	✗
3 months	✓ (abduction only)	✓	✗
5 months	✗	✓	✗
8-10 months	✗	✓	✗
15 months	✗	✓	✓
21-24 months	✗	✓	✓

Purpose

To detect early and treat developmental dysplasia of the hip

Personnel

This assessment is provided by the Lead Maternity Carer for the first 4-6 weeks, and thereafter by the Well Child Provider registered nurse or general medical practitioner.

Providers must have current competency and ongoing professional development.

Recommended procedure

- Gain consent of parents/caregivers
- Provide care in a culturally appropriate manner
- Listen attentively and communicate effectively with parents/caregivers
- Record antenatal and medical history to identify those babies likely to be 'at risk'. Included in this category are children:
 - with a family history of developmental dysplasia of the hip
 - who have at some stage been breech during pregnancy
 - with congenital talipes equino varus, metatarsus adductus or torticollis
- Undertake and interpret the full range of age appropriate assessment, screening and surveillance procedures
- **Ortolani/Barlow examination:**
 - detects instability of the hip through two manoeuvres designed to show relocation of a posteriorly dislocated femoral head or dislocatability of the femoral head.

(NB Repeated and vigorous manipulation of the neonatal hip is suspected to lead to subsequent instability so manipulation should be kept to a minimum required for screening purposes.)

- **Classic signs:**
 - asymmetry of skin creases
 - limitation of abduction of the hip
 - apparent limb shortening
 - leg posture.
- **Gait:**
 - instability – the affected hip may give way on weight-bearing or abduction
- Discuss significance of findings with parents/caregivers
- Provide relevant information and anticipatory guidance to parents/caregivers
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathways.

Educational preparation needs to include:

- normal infant hip and normal variation re:
 - anatomy
 - physiology
 - development
- risk factors for developmental dysplasia of the hip
- treatment of developmental dysplasia of the hip
- infant hip assessment techniques
- documentation procedures.

Referral pathway

Initial assessment should be undertaken by an appropriately trained health professional. If there is the slightest suspicion of an abnormality an orthopaedic surgeon must be consulted. An orthopaedic surgeon should also examine all babies with an at-risk history.

Where available, a hip ultrasound may be performed on children known to be at risk on the basis of the history or assessments.

Rationale

Studies have shown that complete eradication of the disorder is unlikely to occur and there is now a suspicion in the literature that developmental anomalies can occur after birth.

Undescended Testes

Age(s) of child

Checked at each contact.

Once testes are completely descended, and this is noted, there is no need to reassess at every contact.

Purpose

To detect early and treat undescended testes

Personnel

This assessment is provided by the Lead Maternity Carer for the first 4-6 weeks, and thereafter by the Well Child Provider registered nurse or general medical practitioner.

Recommended procedure

- Gain consent of parents/caregivers
- Provide care in a culturally appropriate manner
- Listen attentively and communicate effectively with parents/caregivers
- Undertake gentle palpitation of scrotum to define position of testes (warm hands)
- Note position as undescended, partially descended or fully descended
- Discuss significance of findings with parents/caregivers
- Provide relevant information and anticipatory guidance to parents/caregivers
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathways.

Educational preparation needs to include:

- normal male infant reproductive system and normal variation re:
 - anatomy
 - physiology
 - development
- risk factors for undescended testes
- treatment of undescended testes
- assessment techniques for undescended testes
- documentation procedures.

Referral pathway

Referral to general practitioner for undescended or partially descended testes as soon as detected.

Childhood Immunisation

This component is divided into two parts. Part 1 covers the role of the immunisation providers and Part 2 discusses the role of Lead Maternity Carers and Well Child Providers who give support and encourage parents/caregivers to ensure that their children receive immunisations.

Part 1 – Immunisation Providers

Age(s) of child

The National Childhood Immunisation Schedule from February 2002 is detailed below.

Patient's Age	DTaP-IVP	Hib-Hep B	Hep B	MMR	DTaP/Hib	Td	IPV
6 weeks	•	•					
3 months	•	•					
5 months	•		•				
15 months				•	•		
4 years	•			•			
11 years						•	•*

Key: D-Diphtheria, T-Tetanus, aP-acellular Pertussis, Hib-*Haemophilus influenzae* type b, MMR-Measles-Mumps-Rubella, IPV-inactivated polio vaccine.

* for children who have not received a 4th dose of polio vaccine.

Babies of HBsAg positive mothers need HBIG and hepatitis B vaccine at birth, then continue with usual schedule at 6 weeks, 3 and 5 months. Household and sexual contacts of hepatitis B cases and carriers should be offered hepatitis B immunisation.

BCG should be offered to at-risk infants. (For further information please refer to the *Immunisation Handbook 2002*.)

Purpose

- To inform parents of vaccine preventable diseases and the benefits immunisation
- To protect the child from vaccine preventable diseases and residual disability from the disease
- To improve community immunity from vaccine preventable diseases.

Personnel

The General Practice Team vaccinator or authorised vaccinator provides immunisation.

Recommended procedure

According to the *Immunisation Handbook 2002* and Immunisation Standards (in the Handbook), including:

- Provide care in a culturally appropriate manner
- Provide relevant information to parents/ guardians
- Gain informed consent of parents/guardians
- Use appropriate vaccine transport and storage including cold chain management
- Assess each child for appropriateness for a specific vaccine on the Schedule, and check there are no contraindications to the vaccine and the child's current health
- Check vaccine prior to administration
- Administer vaccine and dispose of equipment correctly
- Provide post-administration care
- Report severe adverse reactions to CARM (Centre for Adverse Reaction Monitoring)
- Document fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathways.

Vaccine Dose and Route	
DTaP-IPV, DTaP/Hib or DT	0.5ml, left thigh (vastus lateralis) IM
Hepatitis B Hib - hepatitis B	0.5ml, right leg (vastus lateralis) IM,
MMR	0.5ml, left arm (deltoid) subcutaneous

See *Immunisation Handbook 2002* for needle size and further information.

Educational preparation needs to include:

Refer to Immunisation Standards in the *Immunisation Handbook, 2002*

- Nursing personnel require additional formal training to become authorised vaccinators by the Medical Officer of Health. This enables them to give immunisation without supervision of a general medical practitioner. It is recommended that all practice nurses also fulfil the requirements. This would routinely include about eight hours of theory (which may be in the form of lectures or in a personal learning programme), buddying through the routine of immunisation, and a formal evaluation.
- A two-yearly review for re-accreditation/authorisation.

Resources

Information for providers on the immunisation schedule, current vaccines, and New Zealand epidemiology is found in the *Immunisation Handbook 2002*.

- The Immunisation Handbook is available from public health services providers or on the Ministry of Health website www.moh.govt.nz
- DHB Immunisation Tool Kit is also available on the Ministry of Health website
- Written and other resources produced by the Ministry of Health, available from public health service providers, www.healthed.govt.nz
- The Medical Officer of Health at local public health services
- Immunisation Advisory Centre - 0800IMMUNE (466863) and www.imac.auckland.ac.nz
- Local immunisation co-ordinator.

Referral pathway

The General Practice Team vaccinator or authorised outreach vaccinator has responsibility to the client to document the immunisation details, and in the case of the authorised outreach vaccinator to ensure the General Practice Team is informed.

Appropriate referral of problems identified, with appropriate documentation, including the notification procedure for vaccination reactions.

Rationale

Rationale for the current immunisations schedule is based on providing safe effective vaccines in combinations of antigens to encourage uptake.

Rationale of current immunisation delivery systems is that immunisation is a component of comprehensive primary health care for children delivered through linked providers.

Part 2 – Immunisation Information Providers

Age(s) of child

Birth to 5 years.

Purpose

- To provide current information to parents, to enable them to make an informed choice to immunise
- To reduce vaccine preventable diseases.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), paediatrician, General Practice Team, or Well Child Provider.

Recommended procedure

- Provide care in a culturally appropriate manner
- Identify child's immunisation status
- Assess family/whānau level of information
- Give immunisation information as necessary
- Support the family through their decision-making process
- Facilitate access to immunisation services as necessary
- Document the course of action taken.

Educational preparation needs to include:

- Benefits, risks and potential side effects of immunisations.
- Updates on changes to the immunisation schedule.

Resources

Information for providers on the immunisation schedule, current vaccines, and New Zealand epidemiology is found in the *Immunisation Handbook 2002*.

- The Immunisation Handbook is available from public health services providers or on the Ministry of Health website www.moh.govt.nz
- DHB Immunisation Tool Kit is also available on the Ministry of Health website
- Written and other resources produced by the Ministry of Health, available from public health service providers, www.healthed.govt.nz
- The Medical Officer of Health at local public health services
- Immunisation Advisory Centre - 0800IMMUNE (466863) and www.imac.auckland.ac.nz
- Local immunisation co-ordinator.

Referral pathway

Refer to the child's General Practice Team, local immunisation co-ordinator or outreach vaccinator in the area.

Breastfeeding

This component links to:

- Growth
- Nutrition
- Developmental Surveillance and Screening
- Sudden Infant Death Syndrome (SIDS).

Breastfeeding has a major impact on the health of children and families. It is now universally acknowledged that breastfeeding gives infants the best start in life. It meets a full term infant's complete nutrition needs for the first six months of life. It is also readily available, low cost, preheated, and has a low risk of bacterial contamination.

Once the decision to breastfeed is made, the continuity and quality of care received (especially at birth and in the immediate postpartum period) is of vital importance to establishment and maintenance of successful breastfeeding. During this crucial period, growth is faster, protection against illnesses (including malnutrition) and infections is most needed, mother-child bonds are formed, and fundamental health practices are established.

Scientific evidence indicates that breastfeeding has a wide range of nutritional and immunological benefits for the infant. It is an important protective factor against a range of infant problems including respiratory infection, gastroenteritis, glue ear, meningitis and diabetes, and enhances cognitive function in later childhood. There is evidence to suggest that it may decrease the incidence of SIDS in children. It also contributes to health for mothers as it reduces postpartum bleeding and possibly reduces the risk of pre-menopausal breast cancer.

Age(s) of child

Information and anticipatory guidance should be provided at all Well Child-Tamariki Ora contacts up until the age of 1 year, and at other times in response to identified needs.

Purpose

To protect, promote and support exclusive breastfeeding for 6 months, and safe and appropriate complimentary foods, with continued breastfeeding for up to 2 years or beyond.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner) and Well Child Provider team.

Recommended procedure

- Provide care in a culturally appropriate manner
- Identify parental expectations and previous breastfeeding history
- Assess family/whānau need for information and support
- Provide practical breastfeeding management and support (eg, latching, positioning)
- Plan care, with family involvement
- Provide relevant information and anticipatory guidance to parents/caregivers
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathway
- Facilitate access to specific support services as necessary.

Educational preparation needs to include:

- Anatomy and physiology of breast and lactation
- Mechanics of breastfeeding
- Importance of breastmilk to infant growth and development
- Common breastfeeding problems and advice and assistance for same
- WHO Ten Steps to Successful Breastfeeding
- New Zealand interpretation of the WHO code on the Marketing of Breastmilk Substitutes and complaints mechanism
- Cultural differences in relation of breastfeeding
- Awareness of local breastfeeding support networks and services
- Ability to critique information to ensure best practice is informed and current
- Sources of information and research about breastfeeding
- Access to and interpretation of breastfeeding data and trends, including MOH standard breastfeeding definitions for New Zealand.

Resources

Written and other resources produced by the Ministry of Health, available from public health service providers, and www.healthed.govt.nz ;

- written resources for practitioners, for example:
 - Ministry of Health: *Infant Feeding, Guidelines for New Zealand Health Workers*
 - Ministry of Health: *Food and Nutrition Guidelines*

- The New Zealand College of Midwives: *Protecting, Promoting and Supporting Breastfeeding: The Handbook of the New Zealand College of Midwives*;

- policy on breastfeeding and compliance with the WHO Code.

Referral pathway

Breastfeeding complications that fall outside the usual breastfeeding problems that can be dealt with most appropriately in the community setting by the Lead Maternity Carer (LMC) or Well Child Provider can be referred to:

- La Leche League
- secondary maternity service – either to the woman’s LMC and/or directly to the woman. This specialist advice may be provided by a lactation consultant or midwife with additional expertise in breastfeeding
- other community breastfeeding support
- general practitioner.

Rationale

Breastfeeding support by health professionals has been shown to impact positively on breastfeeding rates.

Breastfeeding definitions

In 1999 the Ministry of Health adopted the following standard definitions for New Zealand:

Exclusive	the infant has never, to the mother’s knowledge, had any water, formula or other liquid or solid food. Only breast milk, from the breast or expressed, and prescribed ¹ medicines have been given from birth.
Fully	the infant has taken breast milk only, no other liquids or solids except a minimal amount of water or prescribed medicines, in the past 48 hours.
Partial	the infant has taken some breast milk and some infant formula or other solid food in the past 48 hours.
Artificial	the infant has had no breast milk but has had alternative liquid such as infant formula with or without solid food in the past 48 hours.
Recommended data collection times are:	
Initiation	48 hours following birth #
	2 weeks
Established breastfeeding	6 weeks
	3 months #
	6 months #
Continued breastfeeding	12 months #
	2 years
# The priority collection points	

¹ Prescribed as per the Medicines Act 1981

Nutrition

This component links to:

- Growth
- Development
- Child Protection
- Breastfeeding
- Dental Care and Enrolment.

This category includes any infant feeding other than breastfeeding. Included are formula feeding and issues related to weaning.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years - information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Purpose

- To promote appropriate nutrition for the developmental stage and age of the child (includes premature infants)
- To reduce the incidence of food-related health disorders.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule; in particular all Well Child Provider teams.

Recommended procedure

- Provide care in a culturally appropriate manner
- Identify child's age and developmental level
- Assess child's growth patterns
- Assess family/whānau level of knowledge, choice of feeding, and expectations
- Give appropriate nutritional information based on factors above
- Provide anticipatory guidance re nutritional needs
- Incorporate family in decision-making regarding nutritional feeding of their child
- Facilitate access to other services/programmes as required
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathway.

Educational preparation needs to include:

- normal stages of development
- impact of nutrition on growth patterns
- breastfeeding benefits and practice of breastfeeding
- formula feeding – types (whey, casein, and soy formula), appropriate use, preparation
- sterilising techniques
- introduction of solids linked to developmental cues
- introducing solid foods
- healthy foods that are culturally determined
- nutritional issues such as: deficiencies (Iron, Vit A, Vit B), obesity, allergies, vegetarian vs. vegan, and failure to thrive
- nutritional issues related to culture, eg. High fibre intake in Indian diets
- feeding behaviours
- World Health Organization’s Baby Friendly Hospital Initiative
- Ministry of Health documents available on www.moh.govt.nz
 - *Food and Nutrition Guidelines for Healthy Breastfeeding Women – a background paper* (1995)
 - *Infant Feeding – Guidelines for New Zealand Health Workers – based on the World Health Organization’s International Code of Marketing of Breast-milk Substitutes* (1997)
 - *Food and Nutrition Guidelines for Healthy Infants and Toddlers (aged 0-2): a background paper* (2000)
 - *Food and Nutrition Guidelines for Healthy Children Aged 2-12 years: a background paper* (1997).

Resources

Written and other resources produced by the Ministry of Health, available from public health service providers, and www.healthed.govt.nz; resources from Plunket; and local community services eg, District Health Board (DHB), dietitians.

Referral pathway

Refer child to general practitioner or paediatrician if they are failing to thrive.

Refer child to dietitian if there are specific dietary issues for the child or family.

Rationale

Poor nutrition results in poor growth and development of infants and children.

Sudden Infant Death Syndrome (SIDS)

This component links to:

- Smokefree Environment
- Breastfeeding.

Sudden Infant Death Syndrome (SIDS)

The New Zealand Cot Death Study defined a number of risk factors for SIDS which were then classed as either modifiable or unmodifiable. It is entirely possible that other risk factors are also involved which have not yet been identified.

Currently it is assumed that modifying risk factors will reduce the incidence of SIDS and that most success in modifying risk factors is achieved through health promotion/education activities.

Pregnancy and infancy should be seen as key opportunities to act for change to be supported.

Known risk factors for SIDS include:

- ‘modifiable’:
 - maternal smoking
 - lack of breastfeeding
 - prone sleeping position
 - co-sleeping if maternal smoking, drug and alcohol use or obesity
- ‘unmodifiable’:
 - young age at first pregnancy
 - age of mother
 - parity of mother
 - low socio-economic status
 - low attendance at antenatal and well-child contact
 - low birth weight
 - prematurity
 - low maternal educational attainment.

While the ‘unmodifiable’ group is unmodifiable for a specific newborn it may be modifiable for the community as a whole, through community health development.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 1 year.

Information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Purpose

To provide information and support to families to prevent sudden infant deaths.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner) and Well Child Provider team.

Recommended procedure

For individual children and their families the procedure is aimed at reducing the 'modifiable' risk factors. These are :

- maternal smoking
- lack of breastfeeding
- prone sleeping position – management of plagiocephaly
- co-sleeping if there is smoking, recreational drug and/or alcohol use, or obesity
- Provide care in a culturally appropriate manner
- Assess family/whānau need for information and support, including identification of risk factors
- Provide relevant health promotion information and anticipatory guidance to parents/caregivers
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathway
- Facilitate access to specific support services as necessary eg, smoking cessation, breastfeeding support.

Educational preparation needs to include:

- SIDS prevention including knowledge of risk factors and research to back up interventions
- sleep position and management of plagiocephaly
- communication skills
- documentation of specific information provided
- local social and health agency networks
- behaviour change management.

Resources

- Written and other resources produced by the Ministry of Health, are available from public health services and www.healthed.govt.nz
- Written resources are available from community agencies eg, Cot Death Society.

Referral pathway

Steps include:

- SIDS risk education in the context of the family/whānau setting and close to where the family/whānau live
- assessment of high-risk families
- targeted intervention with additional resources, including increased contacts, social and welfare supports, early medical review and referral to other agencies.

Rationale

Appropriate delivery of messages about the modifiable risk factors has been shown to be associated with a dramatic decrease in the rate of SIDS. This positive impact has not been universal, arguably because of inappropriate messages, messengers and methodology. Further evaluation is awaited.

Smokefree Environment

This component links to:

- Sudden Infant Death Syndrome (SIDS)
- Recognition of Childhood Illnesses.

Age(s) of child

For all parents and caregivers, family and whānau of children birth to 5 years - information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Purpose

To ensure smokefree areas for children and their families, and positive role models for children

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), and Well Child Provider teams.

Recommended procedure

- Provide care in a culturally appropriate manner
- Assess family/whānau need for information and support
- Provide relevant information and anticipatory guidance to parents/caregivers
 - Ask family at every contact the amount of smoke the child has been exposed to in the past 48 hours
 - Give explanations to family about the effects of smoke inhalation on children
- Document findings (eg smoke levels) and health gains identified including in the *Well Child-Tamariki Ora Health Book*
 - Plan ways with family of increasing smokefree environments for their children
 - Document level of smoke the child is exposed to and plan with the family to decrease this
- Use appropriate referral pathway
- Facilitate access to specific support services as necessary
- Give positive reinforcement for any behaviour change identified.

Educational preparation needs to include:

- effects of passive smoke inhalation on infants' and children's health
- SIDS prevention including knowledge of risk factors
- addictive behaviours
- documenting findings accurately (including *Well Child-Tamariki Ora Health Book*)
- local social and health agency networks
- behaviour change management
- range of smoking cessation and support programmes and referral options.

Resources

Interpersonal skills; written and other resources produced by the Ministry of Health, available from public health providers and www.healthed.govt.nz ; resources from services such as ASH (action on smoking for health); documentation system.

Referral pathways

Refer family to appropriate local smokefree programmes.

Rationale

Smoky environments are implicated in SIDS and respiratory infections for children.

Recognition of Childhood Illnesses

This component links to:

- Smokefree Environment
- Parenting Support
- Behaviour Management
- Child Immunisation (vaccine preventable disease).

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years - information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Purpose

To assist families to recognise childhood illness, treat symptoms (eg, fever), and access appropriate care in a timely way.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule; in particular all Well Child Provider teams.

Recommended procedure

- Provide parents with culturally appropriate support and information so they have the ability to recognise illness early, have the confidence to seek appropriate treatment, and know appropriate places to get treatment
- Assess family/whānau need for information and support
- Provide relevant information and anticipatory guidance to parents/caregivers
 - Share knowledge of childhood illnesses and their effects on babies and children
 - Have an agreed plan for different scenarios if child's condition deteriorates
 - Provide information on the appropriate use of medications, side effects, dosages, length of treatment, including correct use of Paracetamol
 - Provide information on infection control principles
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathway
- Facilitate access to other health providers (for example General Practitioners) when necessary.

Educational preparation needs to include:

- Information on common childhood illnesses
- management of, and when to refer for, specific conditions
- correct use of medications, side effects, dosages, length of treatment, including correct use of Paracetamol
- infection control principles
- danger signs eg, meningitis.

Resources

Written and other resources produced by the Ministry of Health, available from public health service providers and www.healthed.govt.nz Written material as found in the parent-held *Well Child-Tamariki Ora Health Book*; resources from local DHB and community health organisations.

Referral pathways

Most referrals would go to the general practitioner, but in some instances the provider may make a direct referral to other specialists such as a paediatrician or an ear nose and throat specialist.

Rationale

Children can become unwell very quickly. When families have the ability to recognise illness early, the prognosis may improve.

Dental Care and Enrolment

This component links to:

- Nutrition.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years - at all Well Child-Tamariki Ora contacts, with facilitation of referral to dental therapist at around the age of 12 months. **This is a free service, and entitlements need to be reinforced.**

Information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified need.

Purpose

To promote healthy teeth and decrease dental caries for children, and possible secondary conditions.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule; in particular all Well Child Provider teams.

Recommended procedure

- Provide care in a culturally appropriate manner
- Assess family/whānau need for information and support
- Provide relevant information and anticipatory guidance to parents/caregivers to promote oral health care
- Identify barriers to access, including historical barriers
- Check the teeth for abnormalities when they have erupted
- Facilitate referral of the infant to the dental therapist from 12 months of age
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathway.

Educational preparation needs to include:

- oral hygiene
- age-appropriate nutrition
- normal and abnormal teeth and mouths
- appropriate use of feeding bottle.

Resources

Written and other resources produced by the Ministry of Health, available from public health services and www.healthed.govt.nz; Oral Health Tool Kit available www.moh.govt.nz under Tool Kits.

Referral pathways

Dental therapist, dentist, local District health Board.

Rationale

Primary teeth grow in to the mouth from around the age of 6 months and dental caries can start before the first birthday. Rapid onset of dental caries has been identified as a problem, particularly for Māori children.

Early childhood caries often lead to significant dental problems with many teeth needing filling and extraction, sometimes under general anaesthetic. Early enrolment, combined with appropriate preventative strategies, could significantly reduce this problem.

Child Injury Prevention

This component links to:

- Child Protection
- Development
- Parenting Support
- Strengthening Family Relationships
- Family Violence.

Age/s of child

For parents and caregivers, family and whānau of children from birth to 5 years - information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

- First 6 weeks
- 3 months
- 5 months - critical before mobility increases in the infant
- 8-10 months
- 15 months – critical for water hazards
- 21-24 months
- 3 years
- 5 years

Purpose

To promote a safe environment and reduce the chance of injury at each of the stages of the child's growth and development (eg, from motor vehicle crashes, burns, scalds, poisoning, drowning, falls).

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), paediatrician, General Practice Team or Well Child Provider teams.

Recommended procedure

- Listen attentively and communicate effectively with parents/caregivers
- Provide care in a culturally appropriate manner
- Assess family/whānau need for information and support
- Provide relevant information and anticipatory guidance to parents/caregivers
 - promote safety in the home and community settings
 - inform on early treatment of unintentional injuries that may occur in the home eg, burns
- Facilitate access to resources and specific support services as necessary
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathways
- Undertake relevant ongoing professional development
- Model safe equipment and environment when delivering child-oriented services
- Advocate for safer local communities
- Practice in a developmental context for fast-changing child abilities.

Educational preparation needs to include:

- principles of health education and health promotion
- child development and behaviour management
- health education for safety promotion – linked to age of child and recognising ethnic diversity
- communication skills
- networking in primary health care
- quality improvement project processes for safer communities
- impact of modelling safety promotion in homes.

Resources

Written and other resources produced by the Ministry of Health, available from public health services and www.healthed.govt.nz; Plunket fact sheets and checklists (age-specific); Safekids; ACC; Water Safety New Zealand; local community safety resources; CPR (for health provider).

Rationale

Child injury is the main cause of mortality and hospitalisation of children aged 1 year and over; therefore it is of crucial importance for all providers delivering the Well Child/Tamariki Ora National Schedule.

To achieve positive change in child injury prevention, a multi-faceted approach is required. A good example of such an approach is the 'Safekids' approach, which outlines a continuum of linked strategies. In this model, it is recognised that individual education of parents and children is not, on its own, enough to significantly lower high rates of unintentional child injury but is still an important strategy. Effective prevention also requires educating communities, advocating for child-safety-conscious legislation and policies, orienting organisations towards safer practices, and strengthening the awareness and skills of those who could be involved in prevention work.

The injury prevention component of the Well Child/Tamariki Ora National Schedule arises out of (and is firmly embedded within) such a prevention strategy. This component ensures that parents and caregivers receive timely child injury prevention advice.

Issues for resolution

Cultural context requires additional resources for appropriate health education leaflets.

Acknowledgement that some children are at greater risk than others of preventable injury.

Child Protection

This component links to:

- Parenting Support
- Strengthening Family Relationships
- Family Violence.

Child protection

Prevention of child abuse can be classified into three subsets.

- 1 Primary prevention includes any intervention that is given to the general population to decrease the incidence of child abuse and neglect. Such interventions may include parenting support, or one-to-one programmes to improve bonding and attachment between the caregiver and child.
- 2 Secondary prevention usually implies early detection with the aim of decreasing the duration of abuse and neglect, or additional support to individuals at high risk, before abuse or neglect occurs.
- 3 Tertiary prevention addresses the situations in which child abuse and neglect has already occurred, and the emphasis is on preventing recurrence of, and the impairment resulting from, the abuse.

A child has a right to grow up in a warm and loving environment and to meet his or her full potential. Child abuse is the denial of this right by acts of omission or commission. It includes lack of an adequate physical environment, lack of emotional support, lack of care, and physical injury including sexual injury.

Child abuse is a cyclical phenomenon often occurring in sequential generations. This cycle, once identified, can be broken with appropriate intervention and support.

Child physical abuse and neglect occurs more commonly in times of social stress and economic hardship. There is also a close correlation between partner violence and child abuse. In families identified as 'at risk' intervention includes home visiting, facilitation with welfare agencies and parent education. These interventions are associated with a decrease in the rate of abuse and a decreased use of other health agencies including hospitals.

Universal interventions are more acceptable to populations, have less stigma and more popular support. Universal interventions are associated with a lower abuse rate than predicted for the vulnerable at-risk group. These observations suggest that a universal programme aimed at providing a positive relationship between parent/caregiver and child and thus increasing bonding and attachment reduces child abuse.

There is now recognition that child protection involves the integration of governmental departments such as health, welfare and education. At a community level, this integration means that all providers delivering the Well Child/Tamariki Ora National Schedule may be involved in a 'Strengthening Families' meeting so that the family is able to access the most appropriate support for their needs in a co-ordinated way.

Safe practice in this area requires all providers to have protocols in place to ensure the safety of children and to support staff in this intervention which includes specific training in how to identify, support and refer victims of interpersonal violence, with a particular focus on child and partner abuse.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years – infants under two years are at increased risk.

Information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Purpose

To prevent, recognise and refer at-risk children and caregivers.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), paediatrician, General Practice Team or Well Child Provider team.

Recommended procedure

- Provide care in a culturally appropriate manner
- Listen attentively and communicate effectively with parents/caregivers
- Assess family/whānau need for information and support
- Provide relevant information and anticipatory guidance to parents/caregivers on management of their child's behaviour at the various ages and stages of growth and development, including sleeping, crying, and temperament
- Promote safety messages:
 - child management
 - parent/caregiver support
 - available agencies
- Identify need for support and referral for suspected child abuse
- Where child abuse is identified or suspected assess for partner abuse – see Family Violence component
- Facilitate access to specific support services as necessary
- Use appropriate referral pathways eg, Department of Child, Youth and Family Services or Police in the case of suspected child abuse. Telephone referral should be followed by referral in writing
- Document findings accurately and sensitively including in the *Well Child-Tamariki Ora Health Book*
- Participate in peer or professional supervision.

Educational preparation needs to include:

- understanding of:
 - children's rights
 - children's physical, emotional and behavioural development
 - special vulnerabilities of children in their physical and emotional development
 - recognition of risk of abuse or neglect
 - physical signs of abuse or neglect
 - behavioural signs of abuse or neglect
- how to identify, support and refer victims of interpersonal violence with a particular focus on child and partner abuse
- how to utilise the referral pathway to the Department of Child, Youth and Family Services and maintain a positive working relationship with the service
- knowledge of signs of abuse and neglect in the Ministry of Health *Violence Guidelines 2002: Core Elements of Health Care Provider Response to Victims of Family Violence* or the General Practitioners' *Suspected Child Abuse and Neglect* booklet
- knowledge of local community agencies providing support, time out and counselling
- knowledge of education resource material available for children of various ages and cultures and for caregivers. Examples include 'Keeping Ourselves Safe' and parenting skills programmes.

Resources

Appropriate education resources and information for all staff; Ministry of Health *Violence Guidelines 2002: Core Elements of Health Care Provider Response to Victims of Family Violence* www.moh.govt.nz (see Online Publications); written and other resources produced by the Ministry of Health, available from public health service providers and www.healthed.govt.nz ; *Recommended Referral Processes for General Practitioners: Suspected Child Abuse and Neglect*; MoH, RNZCGP, CYF, NZMA, December 2000.

Referral pathway

All providers of the Well Child/Tamariki Ora National Schedule are required to have their own child abuse policies, protocols and education programmes.

On identification of stresses likely to result in risk for infant(s) refer to:

- parent support service
- home visiting service
- group support.

On identification of suspected risk of abuse, refer to the Department of Child, Youth and Family Services or the Police. Either of these agencies will ensure other supports are provided.

Family Violence

This component links to:

- Parenting Support
- Strengthening Family Relationships
- Child Protection.

Family Violence has been defined in the Government's *Statement on Family Violence* (June 1996) as 'A range of behaviours perpetrated by partners and former partners, family members, household members and other close personal relationships. Family violence encompasses:

- Physical abuse
- Sexual abuse
- Psychological abuse, which is defined as including intimidation, harassment, damage to property, threats of physical, sexual or psychological abuse, and (in relation to a child) causing or allowing the child to witness the physical, sexual or psychological abuse of another person.'

Health effects of family violence have been well documented. Women in violent situations are at greater risk of suffering alcoholism, psychiatric disorders, gynaecological disorders and chronic back pain. **Domestic violence is the fifth leading cause of death from injury for New Zealand women.**

Children who live in violent families are more likely to have behavioural difficulties, increased levels of violent behaviour, lower self-esteem, difficulty with peer relationships and increased physical health problems (eg, asthma, bedwetting). There is also increased risk that the children are victims of child abuse.

Overseas research indicates that women who are, or have been, abused by their partners do not generally disclose abuse unless asked direct questions about it. Research also indicates that women are happy to be asked direct questions about abuse when this is done supportively and they are offered support and referrals.

Safe practice in this area requires all providers to have protocols in place to support practitioners in this intervention which includes specific training in how to identify, support and refer victims of interpersonal violence with a particular focus on child and partner abuse.

Age(s) of child

For all parents and caregivers, family and whānau of children birth to 5 years - information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Purpose

To 'open the door' and provide information and support for women making disclosures, so they know their rights and appropriate sources of help.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), paediatrician, General Practice Team or Well Child Provider team.

Recommended procedure

- Provide care in a culturally appropriate manner
- Assess situation to ensure own safety
- Assess family/whānau need for information and support
- Identify need for support or referral for suspected partner abuse (only if practitioner has received the appropriate training)

Ask the woman a direct question about partner violence eg, 'In the last year have you been hurt; by that I mean hit, kicked, pushed, shoved or otherwise made to feel worthless by someone close to you?'

NB. To ensure safety of the family, do not ask the question unless the staff member is alone with the mother and her baby.

If a disclosure is made, give the woman information on services available in the community for her and her family.

If a positive disclosure is made, it is also important to ask her if she worries about the children's safety. If children are in immediate danger, staff must take action to ensure their safety.

- Facilitate access to specific support services as necessary
- Document findings accurately and sensitively including in the *Well Child-Tamariki Ora Health Book*
- Use of appropriate referral pathway eg, Women's Refuge in the case of suspected partner abuse
- Where partner abuse is identified, also ask about child safety and assess for child abuse
- Participate in peer or professional supervision
- Make culturally matched referrals where possible.

Educational preparation needs to include:

- family violence and its impact on the family and children
- how to identify, support and refer victims of interpersonal violence with a particular focus on child and partner abuse
- referral pathways and positive working relationships established with community agencies providing support, time out and counselling eg, Women's Refuge
- how to utilise the referral pathway to the Department of Child, Youth and Family Services and maintain a positive working relationship with the service
- knowledge of education resource material available.

Resources

Written and other resources produced by the Ministry of Health, available from public health service providers and www.healthed.govt.nz; appropriate education resources and information for staff.

Referral pathway

It is the responsibility of the Well Child Provider to ensure that the woman has information on community agencies available to support her. However, it is not the job of the Well Child Provider to force her to access help. It is up to the woman to access this when she is ready to do so.

Parenting Support

This component links to every other component in the document.

Recently more emphasis has been placed on prevention of problems such as child abuse, family violence and improvement of access to primary health care. Parenting support is an enabling intervention with the aim of achieving better health outcomes for children, families and communities.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years - information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Purpose

- To promote parenting that positively impacts on the child and family
- To reduce disadvantage including child abuse
- To identify at-risk families so support and information can be enabled to enhance parenting strategies.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), or Well Child Provider team.

Recommended procedure

- Provide care in a culturally appropriate manner
- Assess family's need for information and support at every assessment
- Document the extent of the need
- Plan care and incorporate family/whānau in decision-making
- Facilitate access to any services that the family/whānau requires
- Evaluate whether care and support is achieving stated goals
- Provide relevant information and anticipatory guidance to parents/caregivers
 - parenting courses available
 - parent support networks in the community
 - behaviour management strategies to parents/caregivers
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*

- Plan care, with family involvement and their active participation
- Use appropriate referral pathway
- Facilitate access to specific support services as necessary.

Educational preparation needs to include:

- assessment and counselling skills
- behaviour management strategies
- an extensive and up to date knowledge of parenting support options available in the local community.

Resources

Written and other resources produced by the Ministry of Health, available from public health service providers and www.healthed.govt.nz; documentation system.

Rationale

Statistics support the view that some families are more vulnerable than others for potential life-threatening situations that can be supported with early and appropriate intervention.

Issues for resolution

Planning resources that are sufficient to meet all vulnerable families' needs for care and support, developing an information system for the child population.

Behaviour Management

This component links to:

- Parenting Support
- Development
- Child Protection
- Family Violence.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years - information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Purpose

To assist parents in their role of managing child behaviour with developmentally appropriate responses

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), or Well Child Provider team.

Recommended procedure

- Provide care in a culturally appropriate manner
- Assess family/whānau need for information and support
- Provide relevant information and anticipatory guidance to parents/caregivers including:
 - **During first 6 weeks:**
 - communication – recognising baby initiated interactions
 - developing appropriate sleep patterns of infants
 - recognising normal crying behaviour and family tolerance/coping strategies.
 - **From 6 weeks to 6 months:**
 - communication – responding to infant cues
 - developing appropriate sleep patterns of infants
 - recognising normal crying behaviour and developing strategies to cope.

- **From 6 months to 1 year:**
 - using positive communication
 - developing appropriate sleep patterns of infants
 - recognising normal crying behaviour and developing strategies to cope
 - developing strategies to encourage acceptable behaviour
 - developing strategies to encourage social developmental behaviour and family interaction.
- **From 1 year to 2 years:**
 - using positive communication
 - developing positive parenting responses
 - developing strategies which enhance parent/child relationship
 - managing common behavioural concerns such as temper tantrums
 - developing positive proactive strategies to support developmental stages, especially gaining independence.
- **From 2 years to 5 years:**
 - developing strategies for achieving healthy sleeping patterns
 - developing strategies for achieving healthy eating patterns
 - developing strategies for managing relationships with other children and adults, including sibling issues
 - developing strategies to manage toileting
 - managing transition to early childhood education settings
 - developing understanding of normal child development
- Document the need as identified by the parent and health professional including in the *Well Child-Tamariki Ora Health Book*
- Plan care, with family involvement and their active participation
- Provide information and options available in the community, including preschool options
- Facilitate access to specific support services as necessary
- Evaluate whether care and support is achieving desired goals for parents
- Use appropriate referral pathways.

Educational preparation needs to include:

- normal and abnormal behavioural patterns
- normal child development
- behaviour management strategies
- local community support agencies
- strategies for parents to use to encourage and reinforce acceptable behaviour
- cultural differences with child management.

Resources

Written and other resources produced by the Ministry of Health, available from public health service providers and www.healthed.govt.nz; Plunket's *Thriving Under Five* and parent education courses; resources from other community agencies.

Referral pathway

- General practitioner
- Local community agencies
- Child mental health specialist.

Rationale

Most sources agree that children require parenting that includes appropriate guidance so they learn to behave in socially acceptable ways. Ways of guidance include positive reinforcement focused on the child's achievements and justifying prohibitions to the child. Positive parenting does not include: threats; using fear as the only disciplinary tool; denigrating children; or cruel/physical punishment.

At times, most parents will have concerns about their child's behaviour. This occurs when the behaviour interferes with normal family life or the child is doing something that is outside the usual behavioural range.

Alcohol and Substance Abuse

This component links to:

- Child Protection
- Family Violence
- Child Injury Prevention
- Parenting Support
- Behaviour Management
- Breastfeeding
- Nutrition
- Smokefree Environment
- Sudden Infant Death Syndrome (SIDS)
- Maternal Mental Health.

Alcohol and substance abuse is implicated in intentional and unintentional injuries. This includes child abuse and family violence.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years - information and anticipatory guidance should be provided in accordance with the Tamariki Ora Schedule and at other times in response to identified needs.

Purpose

- To reduce the prevalence and impact of illicit drug use
- To identify the parents/caregivers experiencing drug and alcohol problems and provide early referral.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), or Well Child Provider team.

Recommended procedure

- Provide care in a culturally appropriate manner
- Take a detailed drug and alcohol history at first contact and relevant contacts after this
- Document the extent of the need
- Plan care, and incorporate family in decision-making
- Provide culturally appropriate support and information on alcohol and substance abuse
- Facilitate access to any services the family requires
- If concerned about the safety of the children, discuss with senior practitioner or management and refer to the Department of Child, Youth and Family Services
- Assess family need for information and support
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*
- Plan care, with family involvement and their active participation
- Facilitate access to specific support services as necessary
- Use appropriate referral pathways eg, Strengthening Families, Family Start.

Educational preparation needs to include:

- fetal alcohol syndrome
- effect of alcohol and drug abuse on family functioning, parenting and breastfeeding
- addictive behaviour
- behavioural change management
- assessment and counselling skills
- knowledge of local alcohol and drug services and support networks.

Referral pathways

- General practitioner
- Alcoholics Anonymous
- Local community support agencies.

Resources

Written and other resources produced by the Ministry of Health, available from public health service providers and www.healthed.govt.nz; resources from ALAC and Alcoholics Anonymous; other local resources.

Strengthening Family Relationships

This component links to:

- Parenting Support
- Child Protection
- Family Violence
- Development
- Maternal Mental Health.

Family relationships have many facets. There is the attachment between parent/s and infant or child, sibling relationships, parental and whānau/family relationships. All of these relationships impact on children's wellbeing.

Parent-infant attachment is important for the child's development. A strong bond between the parent and child results in positive behaviour and intellectual development. A poor bond between the parent and child results in behavioural disturbances and poorer cognitive development for the child.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years.

Information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Purpose

To promote positive family relationships

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), or Well Child Provider team.

Recommended procedure

- Provide care in a culturally appropriate manner
- Develop rapport and trust with family/whānau
- Promote respectful relationships and positive communication
- Identify the family's need for information and support at every contact
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*
- Provide relevant information and anticipatory guidance to parents/caregivers

- Plan care, with family involvement and their active participation
- Facilitate access to specific support services as necessary including participation in local collaboration and co-ordination initiatives such as strengthening families
- Evaluate whether care plan has achieved goals.

Educational preparation needs to include:

- rapport building
- bonding and attachment theory
- sibling issues
- common difficulties in parent to parent relationships
- up to date knowledge of local community support agencies.

Resources

From Relationship Services and other local community agencies.

Referral pathways

Relationship Services

Local community agencies eg, Family Start, Barnardos

Rationale

Final outcome measures:

- positive behaviour of children
- good cognitive development of children
- reduction of intentional injuries from child abuse and family violence
- maternal mental health.

Maternal Mental Health

This component links to:

- Development
- Child Protection
- Family Violence
- Strengthening Family Relationships
- Behaviour Management
- Breastfeeding.

Numerous studies have shown that 10-15 percent of all women who give birth will develop postnatal depression, and that more than half of these women will not have totally recovered by the end of the first year.

Several studies have showed that postnatal depression impacts on more than the mother's health. It also impacts on the mother-child relationship, the children have more behavioural disturbances and poorer cognitive development. There is also debate over whether postnatal depression is a significant risk factor for SIDS.

Postnatal depression has a higher incidence in women who are less supported, single and under 20 years of age, therefore it is assumed that many young Māori women are in a high-risk group.

Whilst the Edinburgh Postnatal Depression Screening Test is the most recognised there is debate as to whether this is the most appropriate for Māori, Pacific and Asian women. Screening is recognised to be effective both antenatally and postnatally.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years - information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Maternal mental health requires ongoing assessment.

Purpose

- To recognise early, and refer mothers who experience, postnatal distress and depression to decrease the effects of the condition
- To recognise and refer other maternal mental health conditions

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), or Well Child Provider team.

Recommended procedure

- Provide care in a culturally appropriate manner
- Assess family/whānau need for information and support
- Provide relevant information and guidance to parents/caregivers
- Assess mother's previous history of depression, tiredness, mood, coping ability and other prior mental illness
- Assess for the presence of postnatal depression using the Edinburgh Postnatal Depression Screening Test
- Document findings and health gains sensitively
- Plan care, with family involvement and their active participation
- Facilitate access to specific support services as necessary
- Communicate effectively
- Use appropriate referral pathway eg, maternal mental health team.

Educational preparation needs to include:

- predisposing factors
- application and interpretation of the Edinburgh Screening Test and any other appropriate screening tool
- pharmacology associated with postnatal depression, and factors which affect breastfeeding
- up to date knowledge of local community support agencies
- maternal mental health conditions including postnatal depression
- referral options.

Access

Screening for postnatal depression should be performed at the Well Child-Tamariki Ora core contacts at:

- about 6 weeks
- 3 months
- 5 months

and at other opportunistic contacts.

Resources

From local community agencies.

Referral pathways

- General practitioners
- Local mental health services
- Counselling services
- Local community services eg, postnatal depression support groups, women's groups.

Rationale

There is debate about the validity of the Edinburgh Postnatal Depression Screening Test in a New Zealand context. It is assumed to be valid for Pakeha women, but has not been validated for Māori or Pacific women. It has been shown to have high sensitivity, specification and predictive value in overseas populations.

Issues for resolution

Edinburgh Postnatal Depression Screening Test's appropriateness in a New Zealand setting.

Building Social Capital

This component links to:

- Parenting Support
- Growth
- Development
- Supporting Families to Access Social Needs.

Building social capital (increasing the connectedness of the family within the community) is an important task of Well Child Providers. Social cohesion is the degree to which individuals combine with and participate in a secure social environment. There is evidence that the social cohesion of the parents impacts on the child's wellbeing in the preschool years. It is suggested that this is particularly relevant for children who live in unfavourable environments due to fewer educational and financial resources.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years - information and anticipatory guidance should be provided in accordance with the Well Child/Tamariki Ora National Schedule and at other times in response to identified needs.

Purpose

To enhance the social connectedness of the family within the community.

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), or Well Child Provider team.

Recommended procedure

Procedure

- Provide care in a culturally appropriate manner
- Assess family/whānau need for information and support at every contact
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*
- Plan care, with family involvement and their active participation
- Facilitate access to specific support services as necessary
- Enable links to be established between families
- Use appropriate referral pathway eg, Family Start
- Participate in and lead community activities designed to build connectedness and trust.

Educational preparation needs to include:

- detailed up to date knowledge of local community support agencies and groups, and preschools
- socio-ecological model
- community assessment/profile of area and access to services
- social determinants of health.

Resources

On services in the area; interpersonal skills; documentation system.

Referral pathways

All community support services and groups.

Rationale

Increasing social capital for families directly impacts on children's wellbeing.

Supporting Family to Access Social Needs

This component links to:

- Child protection
- Family Violence
- Parenting Support
- Behaviour Management
- Alcohol and Substance Abuse
- Strengthening Family Relationships
- Maternal Mental Health
- Building Social Capital

This component relates to two additional social needs – income and housing.

Age(s) of child

For parents and caregivers, family and whānau of children birth to 5 years - information and anticipatory guidance should be provided in accordance with the Tamariki Ora Schedule and at other times in response to identified needs.

Purpose

To assist families to meet their basic social needs of income and housing

Personnel

All providers delivering the Well Child/Tamariki Ora National Schedule - this includes the Lead Maternity Carer (obstetrician, midwife or general practitioner), or Well Child Provider team.

Recommended procedure

- Provide care in a culturally appropriate manner
- Assess family/whānau's need for information or support at every visit
- Provide information about entitlements, community resources and agencies
- Plan care, with family involvement and their active participation
- Facilitate access to specific services as necessary:
 - Assess income and whether the family is receiving all entitlements
 - Assess number of people in a house for overcrowding

- Use appropriate referral pathways eg, Family Start, Work and Income, Housing NZ
- Evaluate whether care and support is achieving stated goals
- Document findings and health gains identified including in the *Well Child-Tamariki Ora Health Book*.

Educational preparation needs to include:

- detailed up to date knowledge of local community support agencies and groups, and preschools.

Resources

Interpersonal skills; documentation system; written resources from government departments on criteria for housing and income assistance.

Referral pathways

- Other health and social workers (including paraprofessionals)
- Work and Income
- Inland Revenue Department
- Housing and tenancy services
- Budget advice
- Strengthening families, Family Start.

Rationale

Income

Adequate income relates to good health. The link between poverty and ill health is distinct; the economically worst-off experience the highest rates of illness and premature death. The National Health Committee (1998) stated that:

'Income is the single most important determinant of health'.

Well Child providers cannot increase a family's income, but staff can work with a family to support and facilitate them in reaching their optimal level of health. They can also ensure that the family is receiving all their income entitlements, through facilitating and advocating for the family.

Housing

Adequate shelter is a human requirement for life. Some families require assistance to ensure that their basic housing needs are met. Poor housing results in poor health for the family. Overcrowded, damp and cold houses have direct detrimental effects on physical and mental health. In children these health effects include respiratory diseases and meningitis.

Newborn Baby Hearing

Age(s) of child

0-5 days

The use of 'at risk criteria' for hearing loss is currently part of the neonatal and postnatal assessments. These criteria include children with a neonatal history of severe jaundice, extreme prematurity, *in utero* infections, structural cranio-facial abnormalities, suspicion of hearing impairment or a family history of congenital hearing loss.

Purpose

To ascertain if the infant is at high risk of congenital hearing loss.

Personnel

The Lead Maternity Carer (obstetrician, midwife or general practitioner) or paediatrician provides this assessment.

Recommended procedure

- Provide care in a culturally appropriate manner
- Ascertain if there are any parent/caregiver concerns
- Undertake and interpret the assessment and screening procedures (includes risk indicators)
- Discuss significance of findings with parents/caregivers
- Use appropriate referral pathways
- Assess family/whānau need for further information and support (especially prior to an audiology appointment if this is required)
- Facilitate access to specific support services as necessary
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*.

Educational preparation needs to include:

- normal anatomy and physiology of the ear
- risk factors for congenital/neonatal hearing impairment and for progressive and acquired hearing loss
- common ear health and hearing problems and how these are differentiated
- difference between sensory and conductive hearing loss
- appropriate referral pathways
- application of 'at risk indicators' to all babies born, and its place in detecting hearing loss.

Resources

Printed 'at risk indicators' (within *Well Child-Tamariki Ora Health Book*); referral documentation.

Referral pathway

Where presence of risk factors raises the possibility of hearing loss, the child is referred directly to an audiology centre for diagnostic assessment of hearing acuity.

Issues for resolution

Using the 'at risk indicators' has not resulted in a reduction in the age of detection of hearing loss. The average age of detection in New Zealand from 1991 to 2000 was 28.6 months. There has been a trend over the past 10 years for the average age of detection to rise, with it reaching a peak in 2000 of 39 months.

The use of 'at risk indicators' to identify children at increased risk for congenital hearing loss has been used in New Zealand for over 20 years. There are several problems with the use of this approach, which have been identified both in New Zealand and overseas. Using risk factors to identify children with hearing loss has picked up only approximately 40 percent of children with hearing loss. This is assuming 100 percent coverage of the cohort population. Unfortunately the application of the 'at risk indicators' is extremely variable across the country.

This process will eventually be replaced by Newborn Hearing Screening (NBHS). The current screening technologies used for this are Automated Audiometry Brainstem Response (ABR) & Otoacoustic Emissions (OAE). It is predicted that NBHS will become a basic standard of care across New Zealand and replace the 'at risk criteria'.

There are initiatives being developed to implement universal Newborn Screening (NBHS) in New Zealand. An effective NBHS programme would mean hearing loss could be identified by 3 months of age with intervention occurring by 6 months of age. Currently in New Zealand there are a number of NBHS initiatives in some regions.

The Ministry of Health is aware of an initiative started by a multi-disciplinary group with consumer input called the Newborn Hearing Consultative Group. This has been set up to promote the concept of a nationally co-ordinated NBHS programme.

At this time the recommendation is to continue to use the 'at risk indicators' in areas where NBHS is not available. The Ministry of Health is currently looking at the feasibility of implementing the NBHS programmes in New Zealand. The Ministry's major concern is that any programmes implemented are of a high quality, and are backed by accessible and effective diagnostic and treatment programmes.

Hearing Surveillance

Age(s) of child

- 6 weeks
- 3 months
- 5 months
- 8-10 months – (refer for tympanometry if ‘at risk’ of OME or there is a concern re hearing – see ‘Otitis Media with Effusion’ component)
- 15 months – (refer for tympanometry if ‘at risk’ of OME or there is a concern re hearing – see ‘Otitis Media with Effusion’ component)
- 21-24 months – (refer for tympanometry if ‘at risk’ of OME or there is a concern re hearing – see ‘Otitis Media with Effusion’ component)
- 3 years – ensure access to Hearing Vision Screening Programme
- or any occasion the parents or caregivers have concerns.

Purpose

- To detect suspected hearing impairment and/or otitis media with effusion and refer appropriately
- To promote hearing knowledge for parents.

Personnel

The Well Child Provider registered nurse or general medical practitioner undertakes this assessment.

Recommended procedure

- Provide care in a culturally appropriate manner
- Ascertain if there are any parent/caregiver concerns
- Undertake and interpret the assessment and screening procedures (includes ‘Can Your Child Hear?’ questionnaire in *Well Child-Tamariki-Ora Health Book*)
- Discuss significance of findings with parents/caregivers
- Provide anticipatory guidance to parents on ear health
- Assess parent/caregiver need for information and support (especially prior to an audiology appointment)
- Explain the indicators of hearing loss and the difference between conductive and sensorineural hearing loss and how each is managed as necessary

- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathway
- Facilitate access to specific support services as necessary.

Educational preparation needs to include:

- anatomy and physiology of the ear
- risk factors for congenital/neonatal hearing impairment and for progressive and acquired hearing loss
- function of the peripheral hearing system
- common ear health and hearing problems and how these are differentiated
- the indicators of hearing loss and the difference between conductive and sensorineural hearing loss and how each is managed including otitis media
- referral pathways for otitis media with effusion and hearing impairment
- role of tympanometry as an assessment tool and awareness that it is a test of middle ear function and not hearing
- speech development in the normal and hearing impaired child.

Resource

'Can Your Child Hear?' questionnaire included in *Well Child-Tamariki Ora Health Book*.

Referral pathway

Where concerns are raised through questioning or through direct observation, or parental/caregiver concerns the child should initially be referred to a General Practitioner or Ear Specialist Nurse. Consideration should be given to a referral to an otorhino laryngologist (ORL) specialist.

When the ear is normal on assessment and there is professional or parental/caregiver concern, the child should be referred immediately for audiology.

Where medically treatable conditions are identified, these should be managed appropriately. If hearing concerns persist after the treatment the child should be referred for audiology.

Rationale

Findings reported in the New Zealand Deafness Notification Statistics show that the average age of detection of permanent hearing loss of moderate degree or greater over the 10 years from 1991-2000 was 28.6 months. There has been a trend over the last 10 years for the average age of detection to rise, with it reaching a peak in 2000 of 39 months. Hearing loss is difficult to detect in young children and there are issues regarding the validity of the 'Can Your Child Hear?' questionnaire as well as concerns about simple hearing tests.

Parents often get confused about what tympanometry measures, and it appears that misunderstanding of these test results may give false reassurances about a child's hearing ability.

The presence of middle ear disorder often delays the diagnosis of significant permanent hearing loss.

Hearing can be accurately assessed from birth by specialised audiologists. Where parents/ caregivers express significant concern a referral should be made to audiology.

Issues for Resolution

Is the 'Can Your Child Hear?' questionnaire valid?

Effective audiology referral pathways.

There will be a need to review the current programme once a suitable neonatal screening programme is in place.

Newborn Baby Vision and Eye

Age(s) of child

Birth - 7 days

This assessment is part of the neonatal or postnatal assessment. If for any reason the Lead Maternity Carer is unable to undertake a full assessment (which includes red reflex) at this time a referral must be made to the infant's general medical practitioner for the assessment to be included in the 6 week assessment.

Purpose

To detect infants with congenital eye abnormalities, including cataracts and glaucoma.

Personnel

The Lead Maternity Carer (obstetrician, midwife or general practitioner) or paediatrician provides this assessment.

Recommended procedure

- Provide care in a culturally appropriate manner
- Ascertain if there are any family/whānau concerns
- Undertake and interpret the assessment and screening procedures (includes red reflex and risk indicators).

Physical external eye assessment:

- is the face symmetrical?
 - are the eyes of equal size?
 - is the bulbar conjunctiva white? (they should not be red)
 - are the corneas clear?
 - are the lids clean? (there should be no discharge)
 - are the pupils round and black?
 - are the media clear? (normal red reflex).
- Discuss significance of findings to parents/caregivers
 - Assess the family's need for information and support (especially prior to an audiology appointment)
 - Facilitate access to specific support services as necessary
 - Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
 - Use appropriate referral pathways.

Educational preparation needs to include:

- anatomy and physiology of the visual apparatus
- risk indicators for vision or eye problems
- common congenital eye problems
- pathophysiology of congenital eye problems
- current management of congenital eye problems
- referral pathways for congenital eye problems
- assessment of the eye.

Referral pathway

Referral to ophthalmologist if the answer to any of the above is 'no' or where there are concerns.

Resource

Ophthalmoscope.

Rationale

There is no 'review paper' to support the identified criteria in this component.

Issues for resolution

External examination of the eye and ophthalmoscopic detection of the 'red reflex' is important for early detection of congenital cataract of the eye. The incidence of these is reasonably common and requires early treatment to preserve sight. In some cases (congenital cataract) these findings may be a marker of a more serious condition eg, congenital rubella or galactosaemia.

Questions:

- 1 Should the red reflex test be continued?
- 2 If so, what is the evidence for its effectiveness, the best age and who should do it?

The current advice is screening at birth and 6 weeks. It is essential that treatment for cataract occurs by three months. Six weeks is likely to be too late if most are being screened at this age unless better referral mechanisms are in place. Six weeks is late but acceptable if effective and prompt referral processes are in place to ensure assessment and treatment within 3 months for babies with cataracts.

Vision Surveillance and 6-Week Vision Screen

Age(s) of child

- 6 weeks
- 3 months
- 5 months
- 8-10 months
- 15 months
- 21-24 months
- 4 years (by Vision Hearing Screening programme)

or any occasion the parents or caregivers have concerns.

Purpose

To detect suspected visual impairment or defect

Personnel

The Well Child Provider registered nurse or general medical practitioner undertakes this assessment.

Recommended procedure

- Undertake and interpret the assessment and screening procedures (includes 'Can Your Child See?' questionnaire in the *Well Child-Tamariki Ora Health Book*).

Procedure

- Provide care in a culturally appropriate manner
- Ascertain if there are any family/whānau concerns.

Use questionnaire 'Can your child see?' in *Well Child-Tamariki Ora Health Book* at each core contact followed by a physical external assessment at 6 weeks and between 12 and 15 months which includes:

- Observation:
 - face symmetry
 - eyes of equal size
 - eyes white (they should not be red)
 - clear corneas
 - eyelids clean (should not be any discharge)
 - pupils round and black
 - eyes look straight (ie, point in the same direction).

- Additional physical assessment findings:
 - clear media
 - both eyes move to each corner
 - eyes move smoothly
 - does the child fuss or lose fixation when one eye is covered?
 - test for squint using cover test (if possible) or corneal reflections.
- Identify the indicators of suspected squint, media opacity or visual impairment
- Ensure knowledge of ocular anatomy, ocular physiology and neuro-anatomy, their aetiology, signs and symptoms and their effect on development of the visual system
- Discuss significance of findings with parents/caregivers
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathway
- Assess family/whānau need for information and support
- Facilitate access to specific support services as necessary.

Educational preparation needs to include:

- normal anatomy and physiology of the eye
- common developmental and amblyogenic eye problems
- pathophysiology of developmental and amblyogenic eye problems
- current management of developmental and amblyogenic eye problems
- referral pathway for developmental and amblyogenic eye problems
- process to gain co-operation and participation from child
- observation of the eye as outlined above
- observation of visual acuity using a standardised tool
- effective use of the questionnaire 'Can your child see?'
- test for squint – cover test (if possible) or corneal reflections
- documenting test results.

Referral pathway

- Referral to general practitioner if assessment unsatisfactory
- Referral to optometrist/ophthalmologist if the assessment shows abnormality.

Resources

Questionnaire 'Can your child see?'; penlight; cover paddle/target.

Rationale

The normal history of developmental eye disease is well documented. Amblyopia is an acquired condition in which loss of vision occurs in a healthy-looking eye. This occurs as a result of a poorly focused image in the eye during a critical early period, which is completed by 7 to 8 years. There is some evidence that early detection and treatment of refractive error is associated with a decrease in incidence of amblyopia, which achieves improvement of vision to within one line of the good eye.

Issues for resolution

Effectiveness of the questionnaire 'Can your child see?' when used alone (ie, no accompanying physical assessment).

The question is should Well Child Providers undertake the PARR vision acuity assessment between 3 and 3.5 years, when Vision Hearing Technicians are meant to be doing this at 4 years?

Surveillance for Otitis Media with Effusion (OME)

Age(s) of child

The primary objective for OME surveillance is to detect and refer children with persistent OME to appropriate agencies for assessment and/or intervention. This minimises the impact of this disorder on the child's ongoing hearing health and social and educational development. Special focus should be given to tamariki Māori, and Pacific children, who are at high risk of this condition.

Purpose

This programme is designed to detect the presence of chronic OME and to refer symptomatic children for treatment.

Personnel

Some Well Child Provider teams, General Practice Teams, Ear Nurse Specialists, Whakarongo Mai Ear Health workers.

While OME surveillance can be done with appropriate training, the confirmation of the diagnosis, treatment and referral is the role of general practitioners, ear specialist nurses, or ORL Specialist.

- *Whakarongo Mai Ear Health workers undertake Ear Health Education & Tympanometry (without Otoscopy) in some parts of New Zealand for at risk children from 8-10 months*
- *General Practice Teams and Ear Nurse Specialists undertake Tympanometry (with Otoscopy) in some parts of New Zealand for at risk children from 6-10 months*
- *National Vision Hearing Screening services undertake Tympanometry (without Otoscopy) for ALL children at 3 and 5 years - see National Vision Hearing Screening Programme Component.*

Recommended procedure

- Provide care in a culturally appropriate manner
- Ascertain if there are any parent/caregiver concerns
- Assess parent/caregiver need for information and support
- Provide relevant ear health information and anticipatory guidance to parents/caregivers
- Carry out OME surveillance using question, history, tympanometry and otoscopy (if appropriate). Tympanometry **does not evaluate hearing**. Tympanometry is a test of middle ear function
 - Gain co-operation and participation from children
 - Perform tympanometry on children 6 months of age or older, and interpret and record tympanometry results

- Perform otoscopy (ear nurse specialist and general practitioner only)
- Discuss significance of findings to parents/caregivers
- Complete ear health management plans and report results as contracted
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
- Use appropriate referral pathway
- Ensure children get access to specialist services through referral and resource options.

Educational preparation needs to include:

- anatomy and physiology of the ear
- common ear health and hearing problems and how these are differentiated
- risk factors for congenital/neonatal hearing impairment and for progressive and acquired hearing loss
- difference between sensorineural and conductive hearing loss
- pathophysiology of otitis media with effusion
- current management of otitis media with effusion
- referral pathways for otitis media with effusion and hearing impairment
- speech development in the normal and hearing impaired child
- tympanometry method of testing
- tympanometry equipment
- use of otoscope and pneumatic otoscope (registered nurse or general practitioner)
- ear health promotion and developmental indicators
- referral pathways and resources.

Resources

- Calibrated screening tympanometer (+200 – -400daPa range);
- otoscope and pneumatic bulb (general practitioner or appropriately trained registered nurse);
- written resources produced by National Audiology and available through the Ministry of Health www.healthed.govt.nz;
- *Understanding Ear Infection* – Dr Peter Allen, Whangarei.

Referral pathways

- If hearing impairment is suspected and tympanometry is normal, the child must be referred for formal audiological assessment, or if tympanometry is abnormal, refer to general practitioner.

Guidelines for general practitioner management of OME or hearing concerns detected by OME surveillance are:

- If the child has suspected hearing loss but normal tympanometry they should be referred to an audiologist for formal hearing assessment.
- When tympanometry results are consistent with middle ear effusion the child should be observed for an initial period of three months after a paper record of tympanometry is obtained. During this time the majority of OME will resolve asymptotically. The evidence that antibiotic treatment assists resolution is equivocal. There is even less evidence supporting the use of either steroids, decongestants or nasal insufflation
- If OME persists after three months the child should be referred to an otolaryngologist for consideration of grommet placement. ORL review should occur about three months after the initial presentation, which allows sufficient time for any spontaneous resolution
- Symptomatic OME should be treated with appropriate medication and follow-up
- When OME has been corrected and children still show signs of hearing impairment refer to specialist ORL/audiology service.

Rationale

There are few studies validating this concept. There is related information regarding the management and outcome of symptomatic OME and post-infectious OME. It is currently believed that OME is a significant cause of hearing impairment and subsequent speech/language and learning difficulties. Available evidence suggests that this is only significant when OME occurs with associated hearing loss and is bilateral, persistent and occurs before 3 years of age. Long-term OME may also lead to complications such as cholesteatoma.

It is also believed that treatment of OME with surgical placement of ventilation tubes alters the course and effects of OME. The place of antibiotics in asymptomatic OME remains uncertain.

Tamariki Māori, and Pacific children, have been identified as priority populations for services. In 1999/2000 the national average failure rate for hearing screening as a school new entrant for all children was 7.7 percent, however, Māori new entrant failure rate for hearing disorders was 13.1 percent, with Pacific children 16.4 percent. Much of this is due to middle ear disorder. The prevalence of child hearing loss in tamariki Māori, and Pacific children, remains high and has not met the year 2000 target for these groups (5 percent or less).

This programme is proposed to identify these children and other groups at risk for chronic OME and to ensure these are referred for appropriate treatment before the OME has lasting effects.

Issues for resolution

Should the major efforts in OME surveillance be during the first three years?

National Vision Hearing Screening

The programme

- Mass screening of children (3 to 11 years old) to identify prevalent, undetected ear and eye problems requiring further assessment and/or treatment
- Testing carried out using appropriate equipment/tools in specific environments by trained personnel
- Referrals to appropriate agencies using identified indicators for screening
- Documentation of results and counting of statistical information.

Age(s) of child

- **3 years**
 - tympanometry screening.
- **4 years**
 - distance visual acuity
 - penlight/cover test for squint.
- **5 years/school new entrant**
 - audiometry screening
 - tympanometry screening
 - distance visual acuity
 - penlight/cover test for squint.
- **11 years**
 - distance visual acuity
 - colour vision for boys.
- **Parental/teacher/general practitioner concern**
 - all or any of above tests dependent on concern.

Purpose

- To determine distance visual acuity and the need for refractive correction at an age when amblyopia may still be treatable in younger children, and at an age where incidence of myopia increases in older children
- To detect the presence of hearing impairment and/or OME, and to refer to appropriate agencies.

Personnel

The national screening programme is delivered by Vision Hearing Technicians who have received the officially recognised National Audiology Centre training course, and are competent to deliver services according to the *Vision Hearing Screening National Protocol*.

Recommended procedure

- Provide care in a culturally appropriate manner
- **Hearing acuity**
 - Use Pure Tone Audiometer & tympanometer
- **Distance visual acuity**
 - Use Letter-matching Test with crowding (confusion bars) for non-verbal responses.
 - Use Snellen Letter Chart where verbal responses are appropriate
- Generate NHI coded list of children to test
- Gain informed consent from parent/caregiver of each child (prior to screening)
- Gain co-operation and participation from children
- Ensure correct handling, use and maintenance of screening equipment
- Provide test result feedback
- Provide appropriate explanations of test procedures and interpretations of results to parent/caregiver of each child (post screening), and to other health professionals as necessary
- Use appropriate referral pathway - ensure children get access to specialist services through referral and resource options
- Document findings fully and accurately including in the *Well Child-Tamariki Ora Health Book*
 - Supply standardised notation of test results onto school record card (E19/22A) of each child
 - Report result (pass/fail/retest) to Kidslink when available
 - Record daily the numbers of children tested, cohort grouping, number referred, ethnic grouping
 - Collect and report required statistics
 - Report statistical information to National Audiology Centre annually
- Achieve a minimum 16 hours per week hearing and vision screening work.

Educational preparation needs to include:

- **Hearing:**
 - the basic structure and function of the outer, middle and inner ears
 - sources of conductive and sensorineural hearing loss
 - nature of sound and the decibel scale
 - audiometric configuration of hearing loss: degree and shape, and differentiate between conductive and sensorineural hearing loss
 - ideal test room conditions, and measures of how to achieve this
 - equipment checks on the audiometer and tympanometer

- threshold audiometry in a clinic situation
- audiometry and tympanometry screening
- explanations of test procedures and interpretations of results to other health professionals and parents.
- **Vision:**
 - basic structure and function of the visual system
 - refractive anomalies
 - development and visual function of the eye
 - optics of lenses
 - methods of measuring visual acuity
 - colour vision and defects of this, and their detection
 - binocular co-ordination, normal binocular vision, defective binocular vision, and the measures used to detect some of these problems
 - the problems occurring with Vision and Visual Acuity Screening.
- referral criteria and identify the correct referral options
- role of the Vision Hearing Technician in the community
- correct handling, use and maintenance of screening equipment
- recording visual acuity screening, binocular tests, hearing screening and tympanometry screening
- record-keeping procedures including Kidslink once this is available
- statistical data collection, including ways in which statistics can be collected accurately and efficiently.

Training

- Vision Hearing Technicians must:
 - be formally trained and must meet the prerequisites and requirements of the Introductory Vision Hearing Screening Training Course
- be monitored biannually and deemed to be competent by the monitoring process to deliver the service as per the *Vision Hearing Screening National Protocol*
- undertake regular in-service updates.

Test environments

Registered Pre-school/Early Education Centres.

State/Private Primary Schools.

State/Private Intermediate Schools.

Defined Clinic settings.

Referral pathway

See Screening Referral Criteria flowcharts on page 92.

Resources

- Calibrated screening audiometer (.5kHz,1kHz, 2kHz, 4kHz @ 0 –100dB presentation range);
- calibrated screening tympanometer (+200 – -400daPa range);
- Parr Letter-Matching Test (with Confusion Bars);
- Snellen-ratio Letter Chart;
- Ishihara’s Tests for Colour Deficiency (24 plate edition);
- penlight; black eye patch (tie-on or elasticated); hand held Eye Occluder (Denver model or similar); cover paddle/target;
- written and other resources produced by the Ministry of Health, available from public health providers and www.healthed.govt.nz;
- resources recommended by National Audiology Centre.

Rationale

A formal test of visual acuity at the earliest age at which it can be performed is invaluable for the detection of asymptomatic visual problems.

The school new entrant hearing screening test is currently the only universal screen which tests hearing acuity. This may be the only opportunity for a child with a sensorineural hearing loss to be found. (For example, in one year at a major hospital, six children with a moderate, permanent sensorineural hearing loss were detected.)

Issues for resolution

Optimum ages for screening – still to discuss with Children’s Vision Strategy Group, NZQA etc.

Introduction of +2.5 D lens for near vision testing.

Introduction of binocular integrity (Lang).

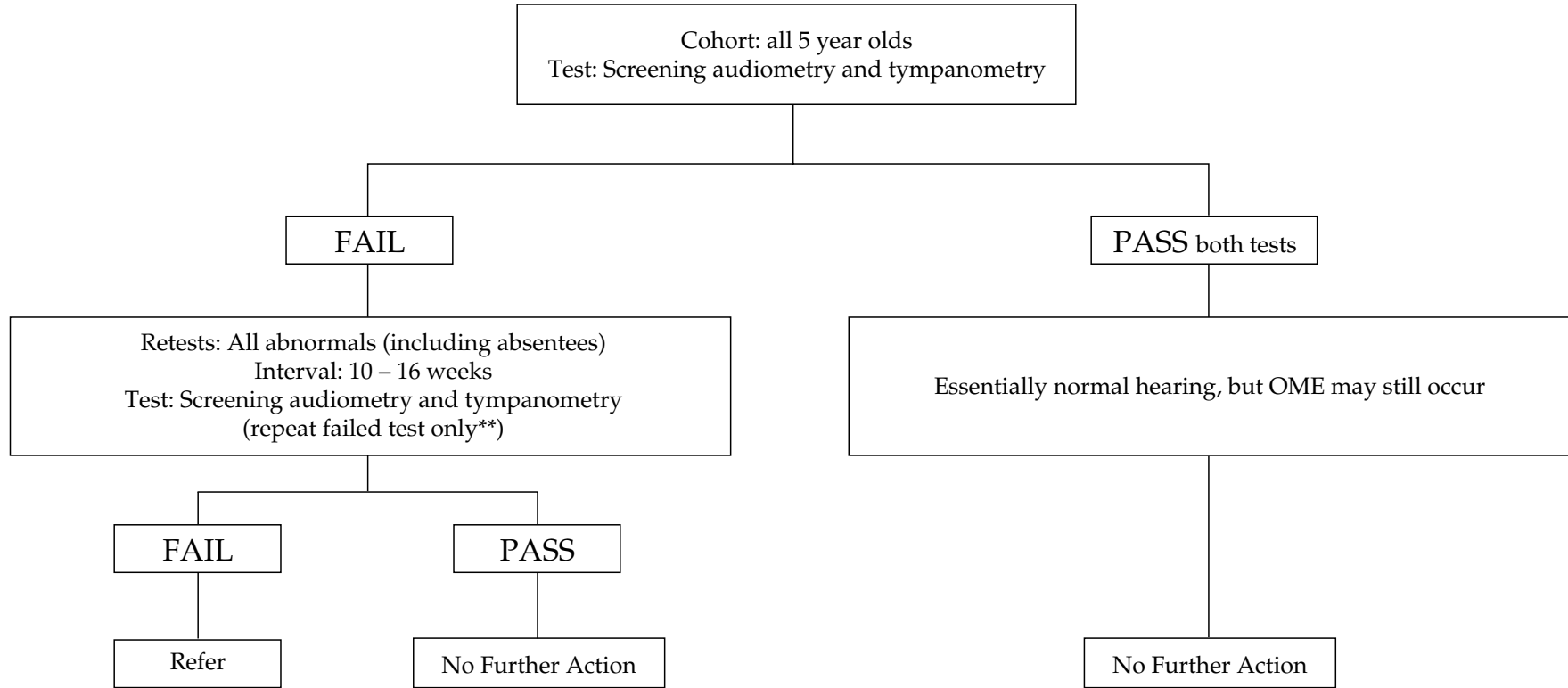
Referral pathways following failure of screen.

Role of Colour Vision Testing.

Low coverage rate of 3 year old tympanometry screen. The effectiveness of this component needs to be evaluated.

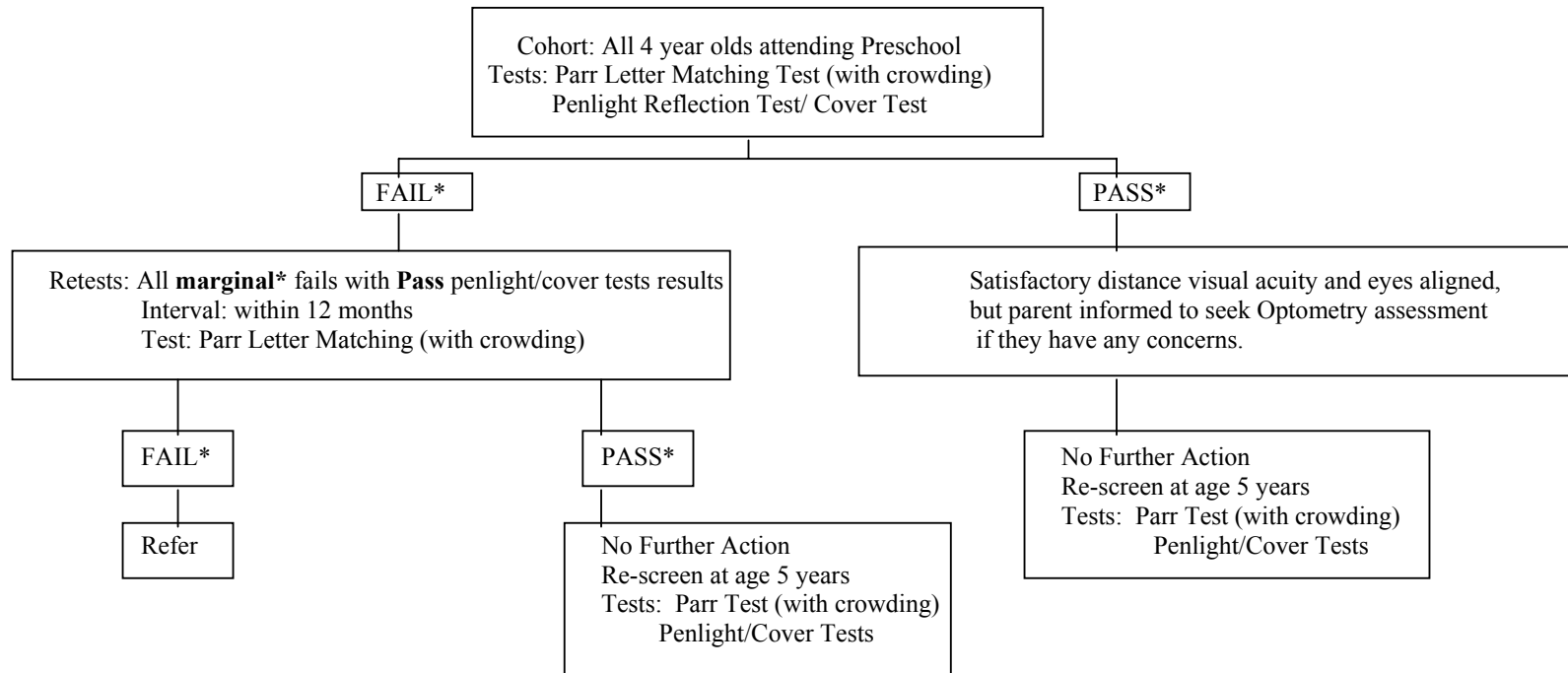
To investigate whether pure tone audiometry could be replaced by another screening tool eg, Otoacoustic Emissions (OAE).

Chart 1: Hearing Screening Protocol at School Entry



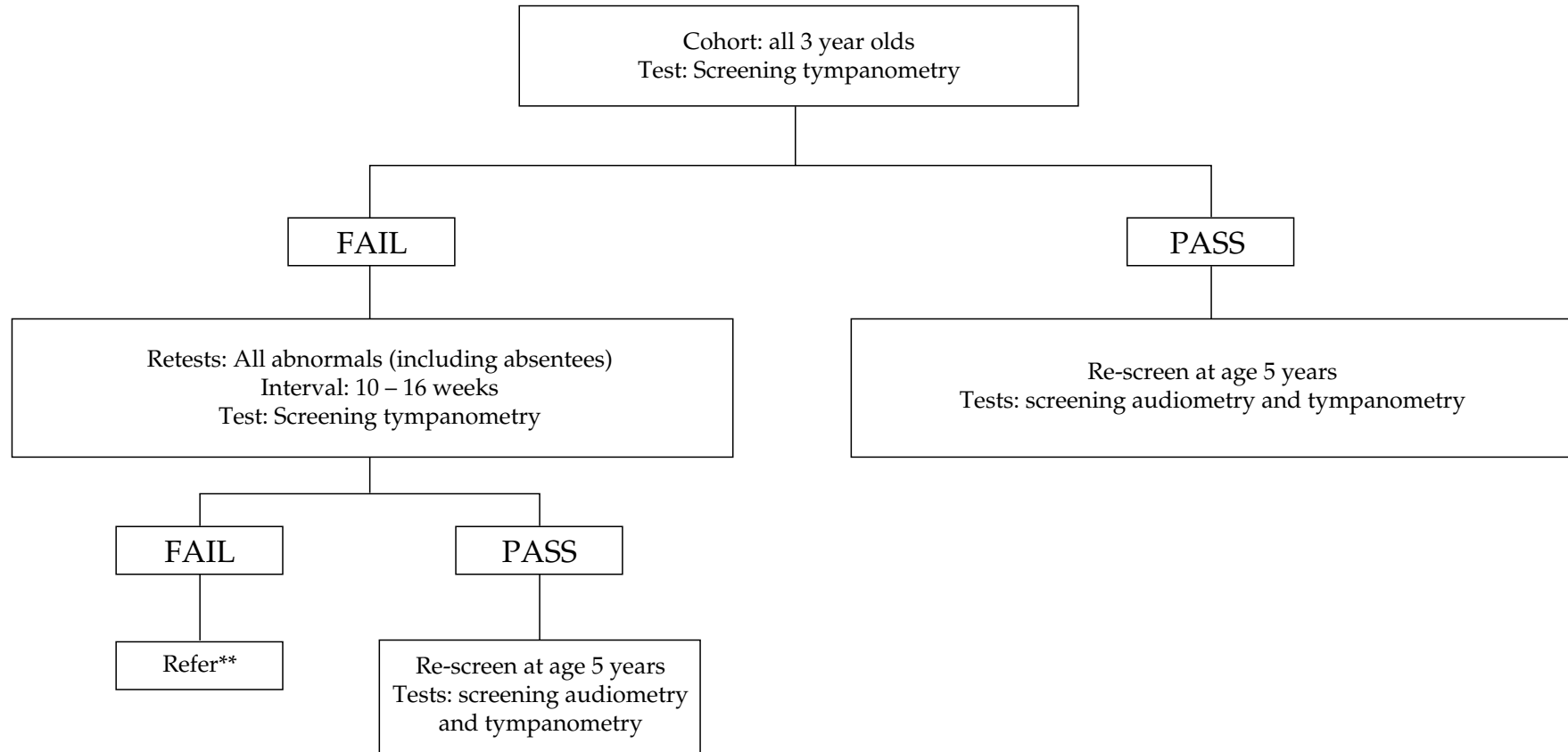
Note: All screening to be carried out by Vision Hearing Technicians
***See Chart 3 for pass/fail criteria**

Chart 1a: Screening Protocol – Preschool Vision



Note: All screening carried out by Vision Hearing Technicians
*See attached Chart 4 for pass/fail criteria

Chart 2: Hearing Pre-School Screening Protocol



Note: All screening to be carried out by Vision Hearing Technicians

***See Chart 3 for pass/fail criteria**

Chart 3: Hearing Screening Referral Criteria

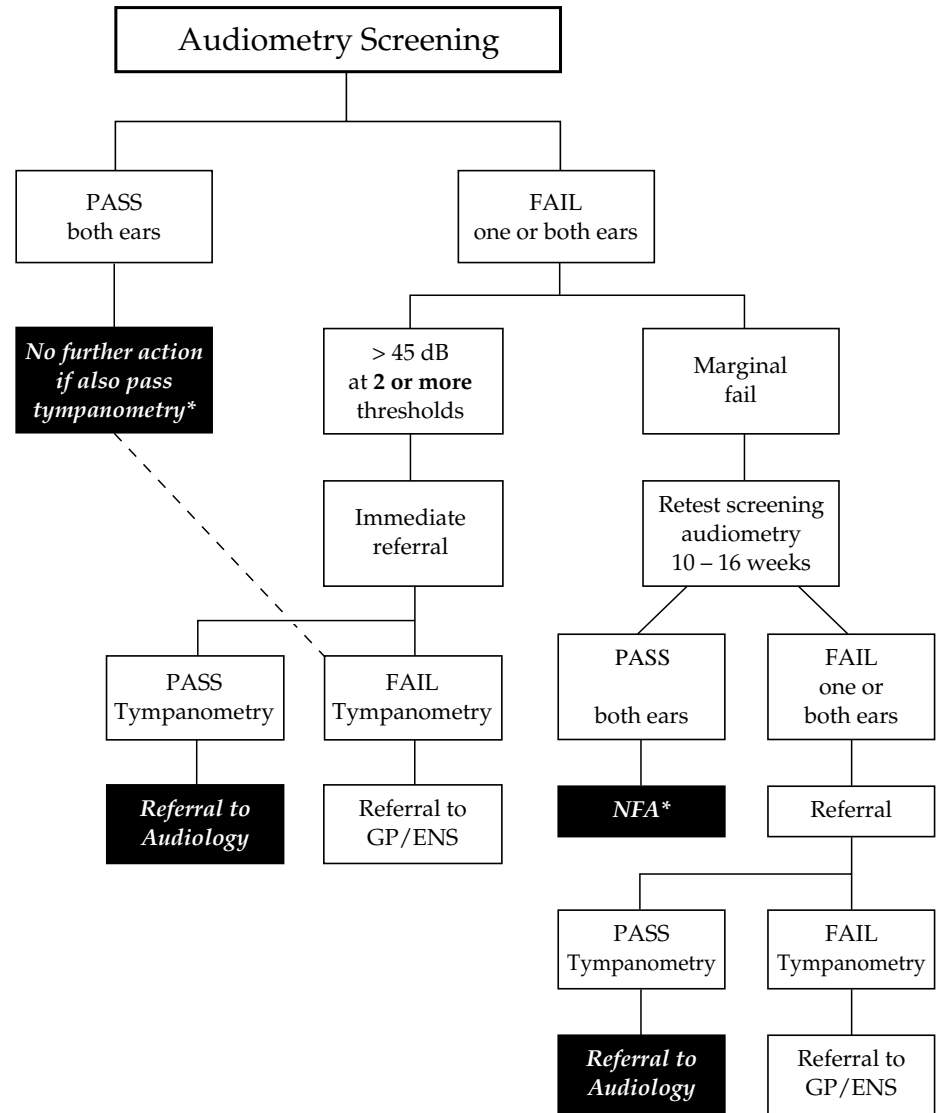
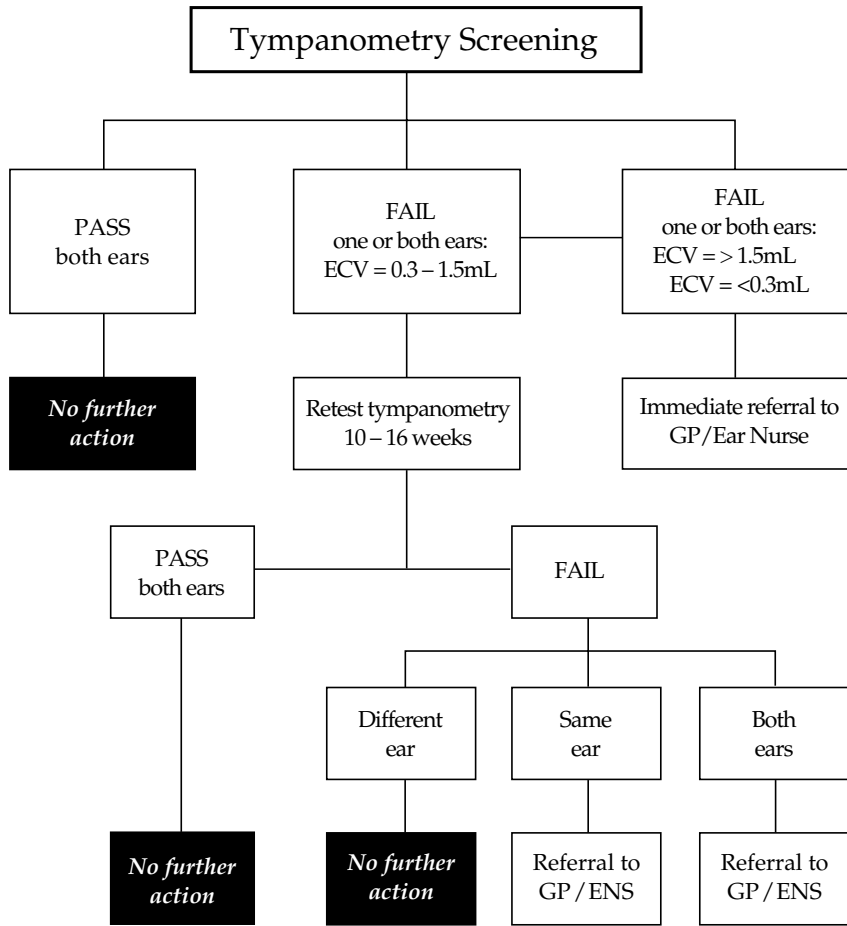
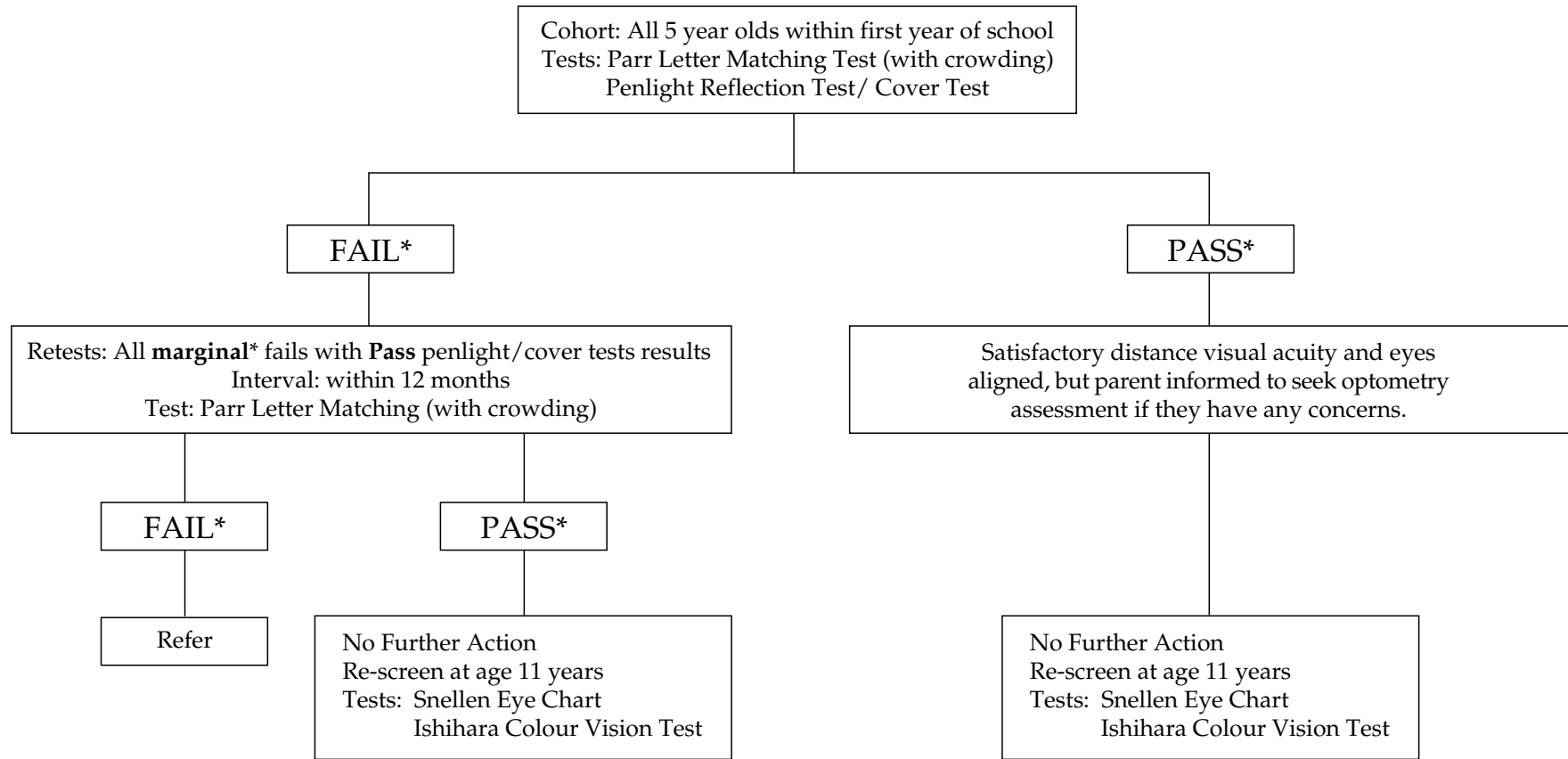
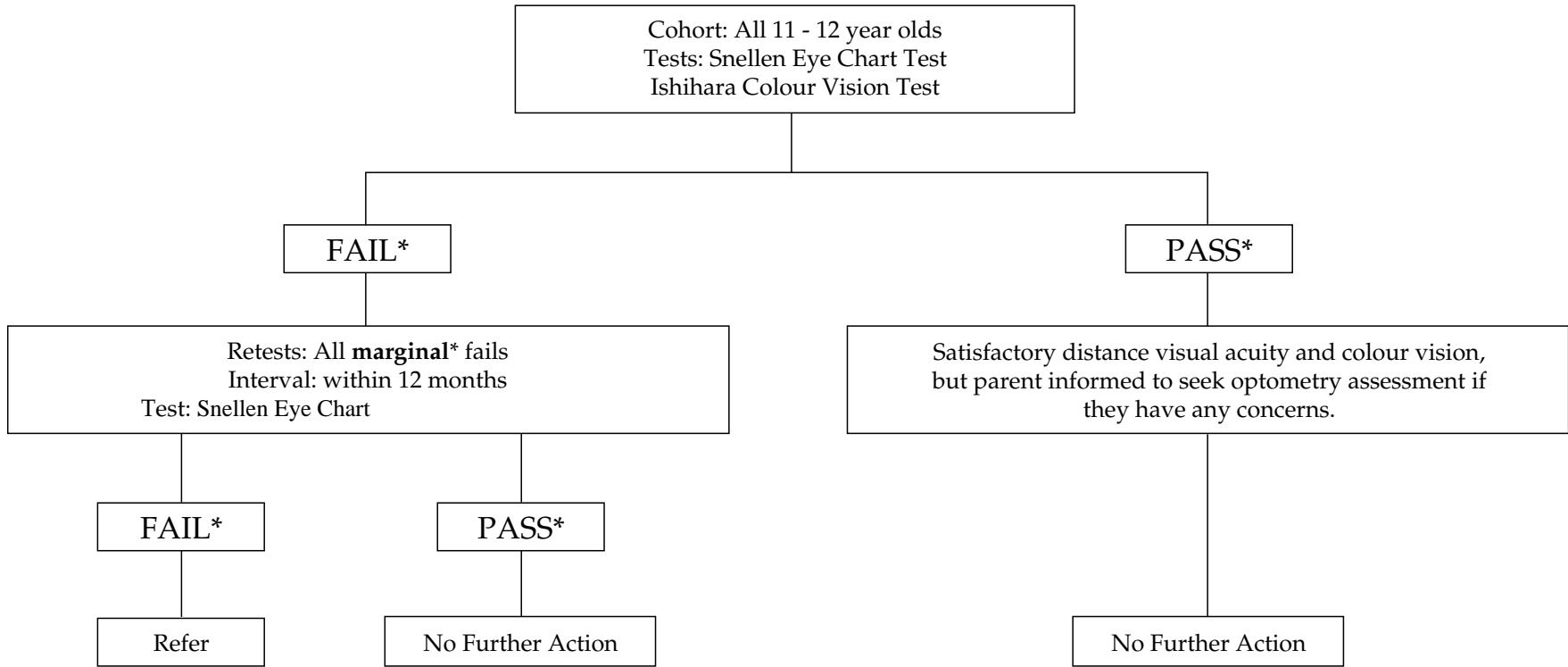


Chart 4: Vision Screening Protocol at School Entry



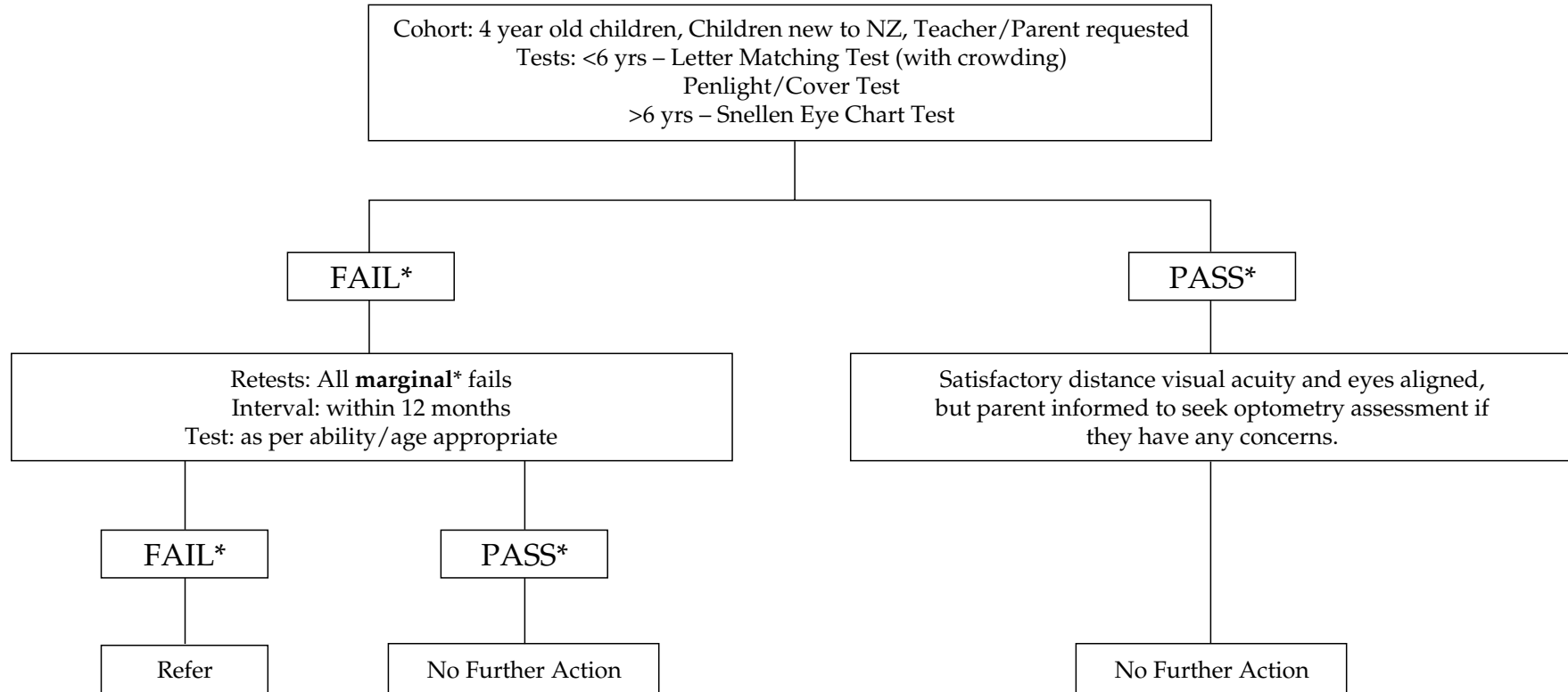
Note: All screening carried out by Vision Hearing Technicians
*See attached Chart for pass/fail criteria

Chart 5: Vision Screening Protocols at Year 7



Note: All screening carried out by Vision Hearing Technicians
***See attached Chart for pass/fail criteria**

Chart 6: Vision Screening Protocol for Other Children



Note: All screening carried out by Vision Hearing Technicians
 *See attached Chart for pass/fail criteria

Chart 7: Vision Screening Referral Criteria

