The First Year of Life

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DEVELOPMENT SURVEILLANCE AT 6 WEEKS

Infants nursed in special care baby units have been routinely assessed at regular intervals for many years, as have those who were placed on "at risk" registers for handicaps. Total population screening was introduced when it was realised that many children later found to have handicaps were not on registers or being seen after discharge from special care baby units.

The examination of all infants at specific ages allows abnormalities to be detected at an early stage, provides mothers with a chance to discuss their anxieties, and gives opportunities for education in preventive health.

Developmental examinations should be considered on two levels: the surveillance of an apparently healthy population, and the detailed assessment of infants referred from primary examinations because of suspected abnormalities. Primary examinations, which should cover all infants in the district, are best performed by the family doctor or clinical medical officer at the community health clinic. In some districts specially trained health visitors do this work, especially for infants whose parents will not visit the surgery or clinic. Nevertheless, this system is not ideal since health visitors may consider up to 20% of infants abnormal and refer them to an assessment clinic, with all the anxiety that this entails. Some clinics are run jointly by a family doctor and health visitor, who often has wide experience of managing feeding and behaviour problems.

Infants found to be abnormal at the primary examination need to be referred to a doctor with a special interest in developmental assessment. This may be the community paediatrician (principal clinical medical officer) or the hospital paediatrician. The more detailed examination performed at this stage will probably need a team of paramedical staff.

A mother who considers that her infant has an abnormality of hearing, sight, or development must be sent straight to the specialist because she cannot be reassured until a detailed assessment has been performed, which usually needs several members of the team. The mother is likely to be right.

Primary examination

Infants in the normal population should be assessed within 24 hours of birth, at 6 weeks, 7 or 8 months, and again at 18 months. A preterm infant should be examined about 6 weeks after the expected date of delivery, when his development should then be the same as that of a 6-week infant born at term.

The examination should take no more than about 15 minutes and should be confined to items that have prognostic significance.

6 Weeks	Normal	Doubtful	Abnormal
Alertness			
Following eyes			
Squint			
Prone			
Held prone			
Murmurs			
Hips			
Testes			

The physical examination of the infant should always include measurement of weight and head circumference. These values, plotted on a growth chart, will show at a glance whether the infant's growth is normal.

Vision and squint

The infant's visual attention is engaged by the examiner crouching about two feet in front of the infant with his eyes on the same level as the infant's. When the examiner slowly moves his head a short distance to one side then the other the normal infant will continue to hold his gaze. Failure to do so is abnormal but may be due to something distracting the infant. If the infant fails to follow he must be examined again two weeks later. Possible causes include lack of stimulation at home, delay in development, or blindness.

An infant who does not fixate on the examiner's face at the second visit should be referred to a developmental specialist. At that stage additional tests will include an attempt to determine whether the infant can see at all by showing him a revolving Catford drum. This induces opticokinetic nystagmus—an involuntary movement of the eyes which occurs even if the infant does not concentrate well.

In young infants a squint can be noticed by observing the position of the light reflex on each cornea when a torch is shone into the eyes. Normally the reflex should be in the centre of each pupil or at a corresponding point on each cornea. An infant with a fixed squint needs to be referred to an ophthalmologist. Otherwise the presence of a squint should be sought at 6 months.

The 6-week examination should include a physical examination and assessment of alertness, vision, and motor function. The checks should be carried out as part of clinical care and not be regarded as pass or fail examinations. A simple form is useful for recording the information quickly. Screening for hearing defects is not usually done until 7 or 8 months, and other abilities are assessed more sporadically, depending on whether the mother takes the child to a local clinic or to the GP's special baby clinic.

Of greatest importance is the child's alertness, interest in his surroundings, responsiveness, and ability to concentrate.

Motor function

The infant should be placed prone on a couch; normally he will lift his head for a few seconds, though some infants may take a few minutes to do so. Infants who usually sleep prone are more advanced in lifting their heads than others. If the infant does not eventually lift his head he needs to be re-examined two weeks later.

When the infant is held in the prone position his head rises to the same plane as his trunk and his legs do *not* fall vertically.

The testes and hips should be examined by the methods described for the newborn infant. It is difficult to detect an abnormal hip at the age of 6 weeks and ideally the condition should have been detected in the newborn infant.

Cardiac murmurs should be sought for and the femoral pulses checked. Though hearing is not tested at 6 weeks, the normal infant will respond to sounds by stopping crying, opening his eyes widely or by a startle reflex, depending on the intensity of the sound.

Patterns of development in childhood

Progress in a particular field does not occur gradually but in spurts, and when one skill is advancing quickly others tend to go into abeyance.

There is considerable variation in the range of normal development, but among the children who fall outside the normal range there are some who later turn out to be normal. The children who fall into this group need examining more closely and more often to determine which are definitely abnormal. They should be referred to developmental specialists.

Lack of appropriate stimulation may cause delay in physical, intellectual, or social development. This factor must be taken into account if the child has been cared for in an institution or if the mother is mentally retarded or has had perinatal depression. These children advance rapidly when the mother is given advice on handling the child or he is placed in a better environment. Delayed speech development, which is probably the commonest handicap of childhood, may be prevented by encouraging mothers to talk to their infants from birth.

No child is mentally retarded if his development is delayed in a single field and normal in all others. A mentally retarded child will be delayed in all fields except sometimes in walking. The severity and prognosis of mental retardation cannot be assessed accurately until the age of about 4½ years and before that age it is best to use the term developmental delay.

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