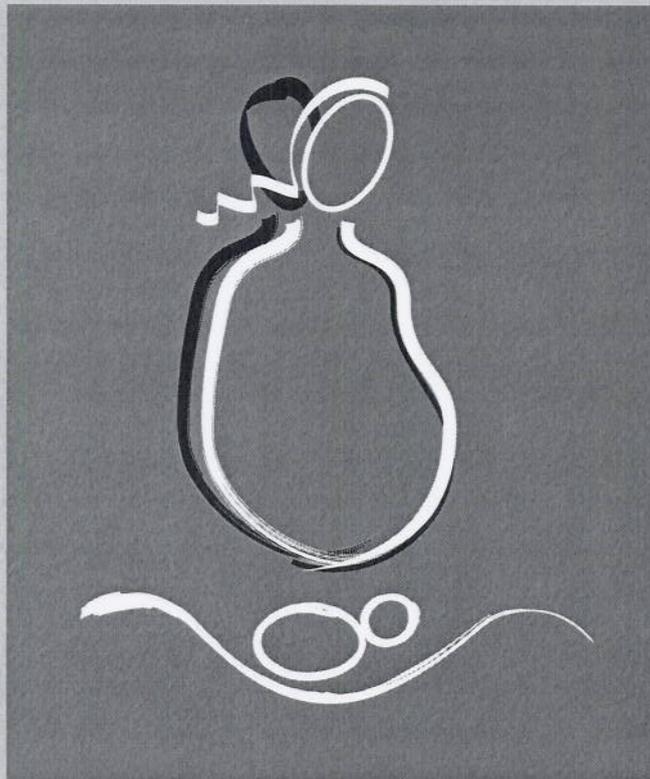


Integrated Management of Pregnancy and Childbirth

Managing Newborn Problems:

A guide for doctors, nurses,
and midwives



World Health
Organization



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The World Bank
Group

 Department of Reproductive Health and Research, World Health Organization, Geneva

TABLE F-2 Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|--|--|--|
| RESPIRATORY RATE | <ul style="list-style-type: none"> Respiratory rate consistently more than 60 or less than 30 breaths per minute Grunting on expiration Chest indrawing (Fig. F-3, page F-47) | <p>ACT NOW: Give oxygen at a moderate flow rate (page C-25).</p> <p>For management of breathing difficulty, see page F-47.</p> |
| | <ul style="list-style-type: none"> Apnoea (spontaneous cessation of breathing for more than 20 seconds) | <p>ACT NOW: Stimulate the baby to breathe by rubbing the baby's back for 10 seconds. If the baby does not begin to breathe immediately, resuscitate the baby using a bag and mask (page P-1).</p> <p>For management of apnoea, see page F-52.</p> |
| <p><i>The normal respiratory rate of a newborn baby is 30 to 60 breaths per minute with no chest indrawing or grunting on expiration; however, small babies (less than 2.5 kg at birth or born before 37 weeks gestation) may have some mild chest indrawing, and it is not abnormal for a baby to periodically stop breathing for a few seconds. When determining the respiratory rate, count the number of breaths taken during a full minute, as babies may breathe irregularly (up to 80 breaths per minute) for short periods of time. If unsure of the respiratory rate, repeat the count.</i></p> | | |
| COLOUR | <ul style="list-style-type: none"> Pallor | For management of pallor and possible bleeding, see page F-113. |
| | <ul style="list-style-type: none"> Jaundice (yellow) | For management of jaundice, see page F-77. |
| | <ul style="list-style-type: none"> Central cyanosis (blue tongue and lips; note that blue skin in addition to blue tongue and lips indicates a very serious problem) | <p>ACT NOW: Give oxygen at a high flow rate (page C-25).</p> <p>For management of central cyanosis, see page F-47.</p> |
| <p><i>Babies born at term appear paler than preterm babies because their skin is thicker.</i></p> | | |

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|--|---|--|
| HEART RATE (as determined using a stethoscope) | <ul style="list-style-type: none"> Heart rate consistently more than 160 or less than 100 beats per minute | During the examination, look closely for other problems that could cause an abnormal heart rate (e.g. abnormal body temperature, bleeding, breathing difficulty). |
| <p><i>The normal heart rate of a newborn baby is 100 to 160 beats per minute, but it is not uncommon for the heart rate to be more than 160 beats per minute for short periods of time during the first few days of life, especially if the baby is distressed. If unsure of the heart rate, repeat the count.</i></p> | | |
| BODY TEMPERATURE | <ul style="list-style-type: none"> Less than 36.5 °C | <p>ACT NOW: Begin rewarming the baby (page C-1).</p> <p>To classify and manage low body temperature, see page F-69. Management of a body temperature less than 32 °C is a priority once the examination is complete (page F-71).</p> |
| | <ul style="list-style-type: none"> More than 37.5 °C | To classify and manage elevated body temperature, see page F-69 . |
| POSTURE AND MOVEMENTS (observed or history of) | <ul style="list-style-type: none"> Opisthotonos (extreme hyperextension of the body, with the head and heels bent backward and the body arched forward; Fig. F-4B, page F-60) | <p>During the examination, look closely for signs of other problems that could cause opisthotonos (e.g. tetanus, meningitis, bilirubin encephalopathy [kernicterus]).</p> <p>ACT NOW: If the baby has a bulging anterior fontanelle, immediately begin treatment for meningitis. See pages F-41 and F-43.</p> |

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|--|---|--|
| POSTURE AND MOVEMENTS (observed or history of) (<i>cont.</i>) | <ul style="list-style-type: none"> Irregular, jerky movements of the body, limbs, or face (convulsion or spasm) | <p>ACT NOW: If the baby is currently having a convulsion or spasm, see page F-59. If the baby has a bulging anterior fontanelle, immediately begin treatment for meningitis. See pages F-41 and F-43.</p> <p>Additional management of a baby with convulsions/spasms or a history of convulsions/spasms is a priority once the examination is complete (page F-59).</p> |
| | <ul style="list-style-type: none"> Jitteriness (rapid and repetitive movements that are caused by sudden handling of the baby or loud noises and can be stopped by cuddling, feeding, or flexing a limb) | <p>During the examination, look for other, more specific signs. If more specific signs are not found, see page F-87.</p> |

The normal resting posture of a term newborn baby includes loosely clenched fists and flexed arms, hips, and knees (Fig. F-1B, page F-23). The limbs may be extended in small babies (less than 2.5 kg at birth or born before 37 weeks gestation; Fig. F-1A, page F-23). Babies who were in a breech position may have fully flexed hips and knees, and the feet may be near the mouth; alternatively, the legs and feet may be to the side of the baby (Fig. F-12, page F-146).

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|--|---|--|
| MUSCLE TONE AND LEVEL OF ALERTNESS | <ul style="list-style-type: none"> • Lethargy (decreased level of consciousness from which the baby can be roused only with difficulty) • Floppiness (weak muscle tone; limbs fall loosely when picked up and released) • Irritability (abnormally sensitive to stimuli; cries frequently and excessively with little observable cause) • Drowsiness (sluggish) • Reduced activity | <p>Handle the baby carefully during the examination to prevent injury.</p> <p>During the examination, look for other, more specific signs. If more specific signs are not found, see page F-87.</p> |
| | <ul style="list-style-type: none"> • Unconscious (profound sleep; unresponsive to stimuli; no reaction to painful procedures) | <p>If unconsciousness is not caused by shock (page F-6), it is most likely caused by sepsis or asphyxia (page F-35). Management of the cause of unconsciousness is a priority once the examination is complete.</p> |
| <p><i>The normal newborn baby ranges from quiet to alert and is consolable when upset. The baby is arousable when quiet or asleep.</i></p> | | |
| LIMBS | <ul style="list-style-type: none"> • Abnormal position and movement of limbs (e.g. Fig. F-10, page F-145) • Baby's arms or legs move asymmetrically • Baby cries when a leg, arm, or shoulder is touched or moved • Bone is displaced from its normal position | <p>To evaluate further for birth injury, see page F-145.</p> |

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|----------------------------------|--|--|
| LIMBS (<i>cont.</i>) | <ul style="list-style-type: none"> • Club foot (foot is twisted out of shape or position; e.g. heel is turned inward or outward from the midline of the leg) • Extra finger(s) or toe(s) | For management of the birth defect, see page F-151 . |
| SKIN | <ul style="list-style-type: none"> • Redness or swelling of skin or soft tissues • Pustules or blisters | Strictly follow infection prevention principles (page C-37) when handling the baby. For management of the skin problem, see page F-127 . |
| | <ul style="list-style-type: none"> • Blistering skin rash on palms and soles | For management of the skin problem, see page F-127 . |
| | <ul style="list-style-type: none"> • Cut or abrasion | For management of the cut or abrasion, see page F-132 . |
| | <ul style="list-style-type: none"> • Bruise (bluish discolouration without a break in the skin, usually seen on the presenting part, e.g. buttocks in breech presentation) | <p>If the bruise appeared spontaneously but there is no evidence of trauma at birth, see page F-113 to evaluate further for a bleeding disorder.</p> <p>If the bruise is from trauma at birth, reassure the mother that no specific treatment is needed for the bruise and that it will resolve spontaneously in a few weeks.</p> |
| | <ul style="list-style-type: none"> • Birth mark or skin tag (abnormal spot, mark, or raised area of the skin) | For management of the birth mark or skin tag see page F-151 . |
| | <ul style="list-style-type: none"> • Loss of elasticity | Treat for dehydration if there are additional signs, such as sunken eyes or fontanelle, or dry tongue and mucous membranes (page C-23). |

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|--|---|---|
| SKIN (cont.) | <ul style="list-style-type: none"> • Thrush (bright red patches on skin in napkin area on buttocks, often scaly in appearance or with small white centres) | To confirm diagnosis of thrush, see page F-128 . |
| <p><i>Some skin conditions are common and should not cause concern as long as the baby is otherwise normal. These include milia (white spots around the nose), typically seen on day 1 or later, and erythema toxicum (red spots with tiny white centres), seen on the face, trunk, and back on day 2 or later. In addition, it is not abnormal for the baby's skin on the trunk, abdomen, and back to peel after the first day.</i></p> | | |
| UMBILICUS | <ul style="list-style-type: none"> • Umbilicus is red, swollen, draining pus, or foul smelling • Skin around umbilicus is red and hardened | For management of the infection of the umbilicus, see page F-135 . |
| | <ul style="list-style-type: none"> • Bleeding from umbilicus | <p>ACT NOW: Reclamp or retie the umbilical cord, if necessary.</p> <p>For management of bleeding, see page F-113.</p> |
| <p><i>The normal umbilicus is bluish-white in colour on day 1. It then begins to dry and shrink and falls off after 7 to 10 days.</i></p> | | |
| EYES | <ul style="list-style-type: none"> • Pus draining from eye • Red or swollen eyelids • Subconjunctival bleeding (bright red spot under the conjunctiva of one or both eyes) | <p>For management of the eye problem, see page F-139.</p> <p>Reassure the mother that no specific treatment is needed and that the problem will resolve spontaneously.</p> |

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|--|---|--|
| MUSCLE TONE AND LEVEL OF ALERTNESS | <ul style="list-style-type: none"> • Lethargy (decreased level of consciousness from which the baby can be roused only with difficulty) • Floppiness (weak muscle tone; limbs fall loosely when picked up and released) • Irritability (abnormally sensitive to stimuli; cries frequently and excessively with little observable cause) • Drowsiness (sluggish) • Reduced activity | <p>Handle the baby carefully during the examination to prevent injury.</p> <p>During the examination, look for other, more specific signs. If more specific signs are not found, see page F-87.</p> |
| | <ul style="list-style-type: none"> • Unconscious (profound sleep; unresponsive to stimuli; no reaction to painful procedures) | <p>If unconsciousness is not caused by shock (page F-6), it is most likely caused by sepsis or asphyxia (page F-35). Management of the cause of unconsciousness is a priority once the examination is complete.</p> |
| <p><i>The normal newborn baby ranges from quiet to alert and is consolable when upset. The baby is arousable when quiet or asleep.</i></p> | | |
| LIMBS | <ul style="list-style-type: none"> • Abnormal position and movement of limbs (e.g. Fig. F-10, page F-145) • Baby's arms or legs move asymmetrically • Baby cries when a leg, arm, or shoulder is touched or moved • Bone is displaced from its normal position | <p>To evaluate further for birth injury, see page F-145.</p> |

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|----------------------------------|--|--|
| LIMBS (<i>cont.</i>) | <ul style="list-style-type: none"> • Club foot (foot is twisted out of shape or position; e.g. heel is turned inward or outward from the midline of the leg) • Extra finger(s) or toe(s) | For management of the birth defect, see page F-151 . |
| SKIN | <ul style="list-style-type: none"> • Redness or swelling of skin or soft tissues • Pustules or blisters | <p>Strictly follow infection prevention principles (page C-37) when handling the baby.</p> <p>For management of the skin problem, see page F-127.</p> |
| | <ul style="list-style-type: none"> • Blistering skin rash on palms and soles | For management of the skin problem, see page F-127 . |
| | <ul style="list-style-type: none"> • Cut or abrasion | For management of the cut or abrasion, see page F-132 . |
| | <ul style="list-style-type: none"> • Bruise (bluish discolouration without a break in the skin, usually seen on the presenting part, e.g. buttocks in breech presentation) | <p>If the bruise appeared spontaneously but there is no evidence of trauma at birth, see page F-113 to evaluate further for a bleeding disorder.</p> <p>If the bruise is from trauma at birth, reassure the mother that no specific treatment is needed for the bruise and that it will resolve spontaneously in a few weeks.</p> |
| | <ul style="list-style-type: none"> • Birth mark or skin tag (abnormal spot, mark, or raised area of the skin) | For management of the birth mark or skin tag see page F-151 . |
| | <ul style="list-style-type: none"> • Loss of elasticity | Treat for dehydration if there are additional signs, such as sunken eyes or fontanelle, or dry tongue and mucous membranes (page C-23). |

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|--|---|---|
| SKIN (cont.) | <ul style="list-style-type: none"> • Thrush (bright red patches on skin in napkin area on buttocks, often scaly in appearance or with small white centres) | To confirm diagnosis of thrush, see page F-128 . |
| <p><i>Some skin conditions are common and should not cause concern as long as the baby is otherwise normal. These include milia (white spots around the nose), typically seen on day 1 or later, and erythema toxicum (red spots with tiny white centres), seen on the face, trunk, and back on day 2 or later. In addition, it is not abnormal for the baby's skin on the trunk, abdomen, and back to peel after the first day.</i></p> | | |
| UMBILICUS | <ul style="list-style-type: none"> • Umbilicus is red, swollen, draining pus, or foul smelling • Skin around umbilicus is red and hardened | For management of the infection of the umbilicus, see page F-135 . |
| | <ul style="list-style-type: none"> • Bleeding from umbilicus | <p>ACT NOW: Reclamp or retie the umbilical cord, if necessary.</p> <p>For management of bleeding, see page F-113.</p> |
| <p><i>The normal umbilicus is bluish-white in colour on day 1. It then begins to dry and shrink and falls off after 7 to 10 days.</i></p> | | |
| EYES | <ul style="list-style-type: none"> • Pus draining from eye • Red or swollen eyelids | For management of the eye problem, see page F-139 . |
| | <ul style="list-style-type: none"> • Subconjunctival bleeding (bright red spot under the conjunctiva of one or both eyes) | Reassure the mother that no specific treatment is needed and that the problem will resolve spontaneously. |

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|----------------------|---|---|
| HEAD AND FACE | <ul style="list-style-type: none"> Hydrocephalus (large head with bulging fontanelle and widened sutures) | Organize transfer (page C-63) and refer the baby to a tertiary hospital or specialized centre for surgery, if possible. |
| | <ul style="list-style-type: none"> Bulging anterior fontanelle | ACT NOW: If the baby has a bulging anterior fontanelle, immediately begin treatment for meningitis. See pages F-41 and F-43. |
| | <ul style="list-style-type: none"> Sunken fontanelle | Treat for dehydration if there are additional signs, such as sunken eyes, loss of skin elasticity, or dry tongue and mucous membranes (page C-23). |
| | <ul style="list-style-type: none"> Swelling on scalp that is not restricted to the area over the fontanelles | For management of the scalp swelling, see page F-121 . |
| | <ul style="list-style-type: none"> Unable to wrinkle forehead or close eye on one side; angle of mouth pulled to one side (facial paralysis; Fig. F-11, page F-145) | To evaluate further for facial paralysis, see page F-145 . |
| | <ul style="list-style-type: none"> Unable to breastfeed without dribbling milk | |

The normal newborn baby's head may be moulded from a vertex birth; this will resolve spontaneously over a period of three to four weeks (Fig. F-7, page F-121).

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|-------------------------|--|---|
| MOUTH AND NOSE | <ul style="list-style-type: none"> • Cleft lip (split in lip) • Cleft palate (hole in upper palate connecting mouth and nasal passages) | For management of the cleft lip or palate, see page F-151 . |
| | <ul style="list-style-type: none"> • Thrush (thick white patches on tongue or inside mouth) | To confirm diagnosis of thrush, see page F-128 . |
| | <ul style="list-style-type: none"> • Central cyanosis (blue tongue and lips) | <p>ACT NOW: Give oxygen at a high flow rate (page C-25).</p> <p>For management of central cyanosis, see page F-47.</p> |
| | <ul style="list-style-type: none"> • Profuse nasal discharge (“snuffles”) | To evaluate further for congenital syphilis, see page F-35 . |
| | <ul style="list-style-type: none"> • Dry tongue and mucous membranes | Treat for dehydration if there are additional signs, such as loss of skin elasticity, sunken eyes or fontanelle (page C-23). |
| ABDOMEN AND BACK | <ul style="list-style-type: none"> • Abdominal distension (Fig. F-6, page F-99) | For management of the abdominal distension, see page F-99 . |
| | <ul style="list-style-type: none"> • Gastroschisis/omphalocele (defect of abdominal wall or umbilicus through which bowel or other abdominal organs may protrude) | For management of the gastroschisis/omphalocele, see page F-152 . |
| | <ul style="list-style-type: none"> • Spina bifida/myelomeningocele (defect in back through which the meninges and/or spinal cord may protrude) | For management of the spina bifida/myelomeningocele, see page F-152 . |

TABLE F-2 Cont. Examination of the newborn baby

| Look at | Look for | Immediate Action(s) Required and Relevant Chapter for Treatment after Completion of Examination |
|------------------------|---|---|
| WEIGHT | • Birth weight less than 2.5 kg | During the examination, look closely for problems the baby may have due to small size, and see page F-23 to review special considerations for the care of small babies. |
| | • Birth weight more than 4.0 kg | Anticipate the need to prevent and treat for low blood glucose (page F-91), and examine closely for possible birth injury. |
| | • Not gaining weight (proven or suspected) | To evaluate further for feeding difficulty, see page F-93 . |
| URINE AND STOOL | • Passes urine less than six times per day after day 2 | Assess feeding and/or fluid volumes (page C-22). |
| | • Diarrhoea (increased frequency of loose stools as observed or reported by the mother; stool is watery or green, or contains mucus or blood) | For management of diarrhoea, see page F-107 . |
| | • Has not passed meconium within 24 hours after birth | Check for imperforate anus: <ul style="list-style-type: none"> • If the anus is imperforate, see page F-153. • If the anus is normal, see page F-102 to determine if the baby has a suspected gastrointestinal malformation or obstruction. |

It is normal for a baby to have six to eight watery stools per day. Vaginal bleeding in the female newborn baby may occur for a few days during the first week of life and is not a sign of a problem.