

Health Maintenance for Infants and Children

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Health maintenance visits provide the physician an excellent opportunity to practice **preventive medicine** and establish an **ongoing relationship** with the child and his/her family.

Health Maintenance for Infants and Children

At each visit, the child should be evaluated for **early disease processes** and **developmental and behavioral problems**.

The appropriate **screening tests, immunizations, guidance and counseling** must be provided.

1-History and Physical examination

A- History: Initial history should be complete and include: family history, social history, environment, birth history, allergies, medications and complete medical history (Injuries, diet, growth and development, behavioral problems and a review of systems)

1-History and Physical examination

B- Physical examination: Complete with particular attention to those aspects appropriate for the child's age.

C- Developmental assessment: assessed at each visit.. Denver Developmental Screening Test....

Age	Developmental milestones
2 wk	Lifts head prone Follows to midline Responds to noise
2 mo	Smiles responsively Follows past midline Lifts head 45 degrees
4 mo	Grasps rattle Rolls over one way Laughs Squeals
6 mo	Sits briefly without support Reaches for objects Smiles spontaneously
9 mo	Transfers object from one hand to another Stands holding on Plays peek-a-boo Feeds self a cracker
1 yr	Stands momentarily Walks holding on to furniture Says mama, dada (now specific) Thumb-finger grasp
15 mo	Stands alone Walks alone Drinks from a cup Says three words other than mama, dada
18 mo	Mimics household chores (sweeping) Makes tower of two or three cubes Indicates wants
2 yr	Points to body parts Scribbles Handles a spoon well Says two-word sentences Kicks a ball

Age	Motor
0-1 mo	Does not pull up to sit
1 mo	Does not roll over
1-2 mo	Does not sit without support
2-3 mo	Does not stand while holding on
3-4 mo	Does not walk
4-5 mo	Does not crawl
5-6 mo	Does not stand without support
6-7 mo	Does not walk
7-8 mo	Does not crawl
8-9 mo	Does not stand without support
9-10 mo	Does not walk
10-11 mo	Does not crawl
11-12 mo	Does not stand without support
12-13 mo	Does not walk
13-14 mo	Does not crawl
14-15 mo	Does not stand without support
15-16 mo	Does not walk
16-17 mo	Does not crawl
17-18 mo	Does not stand without support
18-19 mo	Does not walk
19-20 mo	Does not crawl
20-21 mo	Does not stand without support
21-22 mo	Does not walk
22-23 mo	Does not crawl
23-24 mo	Does not stand without support
24-25 mo	Does not walk
25-26 mo	Does not crawl
26-27 mo	Does not stand without support
27-28 mo	Does not walk
28-29 mo	Does not crawl
29-30 mo	Does not stand without support
30-31 mo	Does not walk
31-32 mo	Does not crawl
32-33 mo	Does not stand without support
33-34 mo	Does not walk
34-35 mo	Does not crawl
35-36 mo	Does not stand without support
36-37 mo	Does not walk
37-38 mo	Does not crawl
38-39 mo	Does not stand without support
39-40 mo	Does not walk
40-41 mo	Does not crawl
41-42 mo	Does not stand without support
42-43 mo	Does not walk
43-44 mo	Does not crawl
44-45 mo	Does not stand without support
45-46 mo	Does not walk
46-47 mo	Does not crawl
47-48 mo	Does not stand without support
48-49 mo	Does not walk
49-50 mo	Does not crawl
50-51 mo	Does not stand without support
51-52 mo	Does not walk
52-53 mo	Does not crawl
53-54 mo	Does not stand without support
54-55 mo	Does not walk
55-56 mo	Does not crawl
56-57 mo	Does not stand without support
57-58 mo	Does not walk
58-59 mo	Does not crawl
59-60 mo	Does not stand without support
60-61 mo	Does not walk
61-62 mo	Does not crawl
62-63 mo	Does not stand without support
63-64 mo	Does not walk
64-65 mo	Does not crawl
65-66 mo	Does not stand without support
66-67 mo	Does not walk
67-68 mo	Does not crawl
68-69 mo	Does not stand without support
69-70 mo	Does not walk
70-71 mo	Does not crawl
71-72 mo	Does not stand without support
72-73 mo	Does not walk
73-74 mo	Does not crawl
74-75 mo	Does not stand without support
75-76 mo	Does not walk
76-77 mo	Does not crawl
77-78 mo	Does not stand without support
78-79 mo	Does not walk
79-80 mo	Does not crawl
80-81 mo	Does not stand without support
81-82 mo	Does not walk
82-83 mo	Does not crawl
83-84 mo	Does not stand without support
84-85 mo	Does not walk
85-86 mo	Does not crawl
86-87 mo	Does not stand without support
87-88 mo	Does not walk
88-89 mo	Does not crawl
89-90 mo	Does not stand without support
90-91 mo	Does not walk
91-92 mo	Does not crawl
92-93 mo	Does not stand without support
93-94 mo	Does not walk
94-95 mo	Does not crawl
95-96 mo	Does not stand without support
96-97 mo	Does not walk
97-98 mo	Does not crawl
98-99 mo	Does not stand without support
99-100 mo	Does not walk

Screening

A- Growth: Measuring Growth (weight, height, Head circumference at birth, 2-4 wks, at 2,4,6,9,12,15,18 and 24 months.... Weight and height at ages 3, 4,5,6 and every 2 yrs...) and its progressing over time to identify significant childhood conditions

Table 1.1-2. Recommended childhood prevention screening

Test/Examination	Screening recommendation
Blood pressure	Age 3 and every 1-2 yr thereafter
Hearing	Subjective assessment at all visits, pure-tone audiometry at 4 yr
Vision	Red reflex and corneal light reflex during first week of life and at 6 mo; visual activity and cover-uncover at 3 yr and 5-6 yr
Anemia	Age 9 mo and consider repeat at 3-4 yr
Tuberculosis	No routine screening; annually in high-risk populations
Lead	Blood testing at 1 yr and again at 2 yr of age; screen with questionnaire at 6 mo to 6 yr
Cholesterol	No routine screening; screen high-risk children after age 2 yr
Urinalysis	Consider screening urinalysis in preschool children

Screening

B- Newborn screening: Regulations and guidelines...

USA: screening for congenital thyroidism and phenylketonuria within the first week of life...
Screening for high risk groups....

C- Blood pressure: Regulations and guidelines...

Screening

D- Hearing: Most speech and language development occurs between birth and 3 years.. It is important to detect hearing problems as early as possible...

E- Vision: All children should be screened for a red reflex and a symmetrical corneal light reflex during the first week of life and again at 6 months... Visual acuity testing should be done at age 3 years ...5-6 years...

Screening

F- Anemia: All children should be screened at 9 months of age.. The cut point is hemoglobin below 11g/dl.. Repeat at 3-4 years where the cut point is hemoglobin below 11.2 g/dl

G- Urinalysis: No consensus on either the necessity or the timing .. To detect Hematuria, Proteinuria, Glucosuria....

Screening

H- Tuberculosis: Annual testing for children in high risk population (born abroad in high prevalence countries.. Medical conditions..)

I- Lead: All children should be screened at the age of 12 and 24 months... A structured questionnaire to assess lead exposure between 6 months and 6 years.... Any yes requires a blood test...

The screenshot shows the 'Childhood Lead Poisoning Risk Factor Questionnaire' from 'THE LEAD GROUP INCORPORATED'. It includes instructions to see a doctor if any 'YES' answers are given. The questionnaire is for children aged 9 to 48 months and contains three questions about lead exposure risks in the home.

Childhood Lead Poisoning Risk Factor Questionnaire	
If you answer YES to any of the questions then see your doctor to discuss the need for a blood lead test.	
If your child is aged between 9 and 48 months, does he or she:	
• Live in, or frequently visit, a house* built before 1970 with peeling or chipping paint?	Yes ☐ No ☐
• Live in, or frequently visit, a house* built before 1970 with previous or ongoing renovation where old paint (interior or exterior) has been burnt or sanded off, or where ceilings, walls or floors demolished?	Yes ☐ No ☐
• Live in, or frequently visit, a house* near a lead releasing industry, eg lead mine, lead smelter, battery-recycling plant?	Yes ☐ No ☐

<http://www.lead.org.au/fs/fst10.html>

(*This includes day-care centres, preschools and homes of babysitters relatives, etc)

- Live with an adult whose job or hobby uses lead? (eg lead mining or smelting, automotive repair, panel-beating, leadlighting, fishing sinker making, electronics, shooting instruction, car-battery service/ repair or manufacture). Yes ☐ No ☐

Does your child....

- Have a brother or sister, housemate or playmate with an elevated blood lead level? Yes ☐ No ☐
- Sometimes eat non-food items such as soil or paint? Yes ☐ No ☐
- Have any of the following conditions sometimes associated with lead poisoning, eg iron deficiency anaemia, behaviour problem**, learning problem** or developmental delay**?
(**. note that these conditions may not be diagnosed until after the lead level has returned to "normal") Yes ☐ No ☐

<http://www.lead.org.au/fs/fst10.html>

Screening

J- Cholesterol: Universal screening is not recommended..... Only children from high risk families.... LDL....

Early origins of adult (CVD) disease.....

K- Depression: Routine screening is not recommended..... Clinicians should be attentive for symptoms... Risk factors (history of abuse, history of parental depression..)

Immunization

A- DTP: All children should be immunized against... at 3, 4 and 5 months of age.. The fourth vaccine at 18 months...

----- at School -----

B- Haemophilis Influenza Type b: All children beginning at 3, 4 and 5 months....

Immunization

C- Hepatitis B: All children should be immunized during the first 18 months of life... at birth, 3, and 10 months of age..

D- Measles, Mumps and Rubella (MMR): MMR at 12 months (10 months-MEASLES).... and at 18 months

Vitamin A..... Measles Side effects....

Immunization

E- Polivirus: (at birth, 3, 4, 5 and 18 months of age)..

1- at 3 months (Intramuscular)

2- at 4 months (Intramuscular)

3- at 5 months

4- at 7 months

5- at 1 year

6- at 18 months

----- at first year... Primary School.....

Immunization

F- Varicella: at 12-18 months (no history of infection)....

G- Hepatitis A: For outbreaks, is recommended in selected high risk locals and states...

4- Dental and Oral Health

Counseling should be provided routinely..
Dental visit at 2-3 years of age....Wipe the infants gums and teeth.... Once multiple teeth have appeared, brushing teeth should be done...Encourage the 1 year child to use a cup instead of a bottle... Fluoride supplementation....

5- Safety

Age specific safety counseling should be provided routinely...

- Sudden Infant Death Syndrome: A sleeping child should be positioned on his/her back and should not sleep Prone....
- Car safety seat... seat belts....
- Window and stair gates to prevent falls
- Burns... Medicines....