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## **REVIEW ARTICLE**

## Proposed care protocols for pediatric consultations

Flávia Maestri Nobre Albini<sup>1</sup>, Aline Didoni Fajardo<sup>1</sup>, Carolina Marchi Guerra<sup>2</sup>, Cristina Maria Pozzi<sup>2</sup>, Gastão Dias Junior<sup>2</sup>, Helena Moro<sup>3</sup>, Marco Otilio Duarte Rodrigues Wilde<sup>2,4</sup>, Sandra Mara Witkowski<sup>2</sup>

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## **Abstract**

Introduction: Routine attendance in pediatrics requires knowledge on several protocols and guidelines for each age group to guarantee proper development in childhood. No unified protocol is extant in Brazilian literature for all recommendations. **Objective:** Current paper tries to organize a pediatric attendance protocol to facilitate a pediatric visit to the doctor from the first day of life of the child up to the fifteenth year of the adolescent, and present it on a single chart. **Methods:** Current study is based on a bibliographic survey in PubMed and MEDLINE databases with articles published during the last ten years, based on the guidelines of the Brazilian Society of Pediatrics and the American Academy of Pediatrics and other international and national societies. Protocol starts with guidelines on the number and intervals of visits, neonatal screening tests, usage of vitamin D and ferrous sulfate, recommendations for diets and mouth hygiene and the time in which dentist, ophthalmological, audiological evaluations should start, coupled to follow-up and prevention of cardiovascular and enteroparasite diseases, when and which complementary tests should be done in routine visits, evaluation of physical and neuropsychomotor development, including scores for the diagnosis of autism and depression, and immunization calendar. **Results:** The protocol includes a chart unifying all guidelines by month and date, all the necessary care aspects for the daily use in outpatient attendance and in the consulting room. **Conclusion:** Pediatric attendance protocol will make easy routine visits to the doctor, preventing mistakes and guaranteeing children's best development.

<sup>1</sup> Pequeno Anjo Children's Hospital, Pediatrics Residency Program - Itajai - Santa Catarina - Brazil.

<sup>2</sup> Vale do Itajai University, Department of Pediatrics - Itajai - Santa Catarina - Brazil.

<sup>3</sup> Vale do Itajai University, Department of Internal Medicine - Itajai - Santa Catarina - Brazil.

<sup>4</sup> Pequeno Anjo Children's Hospital, Department of Pediatrics - Itajai - Santa Catarina - Brazil.

#### Correspondence to:

Flávia Maestri Nobre Albini.

Hospital Infantil Pequeno Anjo. Praça Gov. Irineu Bornhausen, 85 - Centro, Itajaí - SC. Brasil. CEP: 88303-026. E-mail: flaviamnalbini@hotmail.com

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## **INTRODUCTION**

Monitoring a child's growth and development is a pediatrician's primary task, given the importance of providing primary health care. The monitoring or follow-up of development is the procedure of closely assisting the child, in a continuous and systematic way, in addition to involving the process of prevention, surveillance or evaluation<sup>(1)</sup>. This process must be carried out in a globalized way, in order to screen and rule out the main diseases, and to avoid delays in diagnoses and also in child development.

The Brazilian Society of Pediatrics (SBP) is one of the main national institutions that is concerned with the wellbeing and growth of children, carrying out several studies and recommendations for preventive care in pediatric follow-up and creation of routines that help the doctor in the daily care of the child. The American Academy of Pediatrics (AAP) is the main international institution that aims to assist in pediatric care, presenting a unified protocol with the recommendations of preventive health care in children, which inspired this study<sup>(2).</sup>

Disease prevention and ensuring healthy growth are the main goals of the individualized protocols that the main pediatric societies recommend. In this sense, a study that unifies the existing protocols and guidelines, separates according to the age group all the care that is necessary in order to facilitate and not allow failure to occur, it is current and relevant.

This study aimed to carry out an outpatient pediatric care protocol analyzing the main literature provided by national and international pediatric societies, describing the recommendations for each topic according to age group.

## **METHODS**

Methodological study and narrative review of the literature. The main international and national sources on the subject were reviewed: pediatric care protocol. The recommendations from the SBP and AAP, and from the Ministry of Health (MS) and the vaccination recommendations of the Brazilian Society of Immunization (SBIM). In addition to other guidelines such as Arterial Hypertension and Dyslipidemias. The database consisted of papers from the last 10 years published in Pubmed and Medline.

For the description and assembly of the protocol, it was separated by age and by item of action and evaluation for each topic of care, or necessary procedure. To organize the protocol, we chose to use a single table in order to group and structure it, separating it by age, facilitating visualization.

## RESULTS

We then organized the following protocols and recommendations (Table 1).

## DISCUSSION

#### **Consultation routine**

The assessment of the need for consultations must be individualized. The number of visits to the pediatrician depends on the age of the child, the existence of comorbidities or peculiarities that require closer care. It is known that the childcare consultation is a great ally in the prevention and early diagnosis of pathologies, as well as in the identification of changes in growth and development. For this, it is necessary to carry out evaluations at important stages of the child's life. Therefore, the first childcare consultation should preferably be performed within 7 days of life. The frequency of the other consultations is variable. The MS recommends consultations at 1, 2, 4, 6, 9, 12, 18, 24 months of life, and after this period, the others must be annual<sup>(3,4)</sup>. The AAP also proposes this frequency of consultations, with only two more, at 15 and 30 months of age<sup>(2)</sup>. The SBP, in turn, guides, in addition to these consultations already stipulated by the MS and AAP, a consultation with 15 days of life, with 15 and 21 months of age and after two years the consultations become biannual until completing 5 years, from then on, they will be annual <sup>5</sup>. However, there is a tendency for these consultations to be more frequent: monthly consultations up to the sixth month of life, after which they become bimonthly up to 2 years and quarterly between 2 and 6 years. At 6 years of age, 1 consultation is carried out per semester and from 7 years onwards, consultations are annual<sup>(6,7)</sup>.

This protocol was based on current proposals, with the minimum consultations guided by the MS and the others by the SBP, always considering that each case must be individualized.

In the initial consultation, the goal is to evaluate prenatal conditions, maternal serology (syphilis, cytomegalovirus, toxoplasmosis, HIV, hepatitis, rubella), as well as the child's birth (type of delivery, place of delivery, birth weight, gestational age, Apgar score, clinical complications during pregnancy, delivery, neonatal period, check the results of neonatal screening tests) and family history. It is the ideal time to ask questions and reinforce breastfeeding, strengthen the bond between the mother and newborn, instruct about care and vaccinations<sup>(3,5)</sup>.

The other consultations each have their uniqueness, always focusing on the global assessment of the child, especially with regards to neuropsychomotor development (NPMD) and growth. The physical examination, the performance of evaluative tests, laboratory tests, hygiene instructions, care and vaccines are essential at this stage of development. And for this it is necessary to know when to perform them.

## Assessment of Neuropsychomotor Growth and Development

The assessment of growth and NPMD of children from 0 to 3 years of age starts at the first consultation and

#### Table 1. Pediatric Care Protocol.

AGE	5 D	15 D	1 M	2 M	3 M	4 M	5 M	6 M	7 M	8 M	9 M	10 M	11 M	12 M	15 M	18 M	21 M	2 A	2,5 A	3 A	3,5 A	4 A	4,5 A	5 A	6 A	7 A	8 A	9 A	10 A	11 A	12 A	13 A	14 A	15 A
Consultations	х	Х	Х	х	*	х	ż	Х			Х			Х	*	Х	*	Х	*	Х	*	Х	*	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Newborn Heel Prick Screening	х																																	
NPMD (Neuropsychomotor	~	v	~	~	v	v	v	v	~	v	v	~	<	v	v	v	v	~	v	v	~	<	v	v	~	v	v	~	v	v	v	v	v	v
development	L^		L^	L_	Â	î	^	Â	^	î	î	î	^	^	î	Â	Â	^	^	^	^	~	~	^	~	Â	Â	^	^	^	<u>^</u>	Â	Â	^
M-Chat – Autism test																х		Х		Х														
Digital screen test								*			*			*	*		*	Х	*	Х	*	Х	*	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Depression Assessment																										х	Х	Х	Х	х	Х	Х	Х	Х
Tanner stage																											Х	Х	Х	х	Х	Х	Х	Х
Eyesight assessment _little eye test	х							х			*			х	*	х	*	х	х	Х		Х		Х										
Ophthamologic assessment														Х						Х				Х		Х		Х		Х		Х		Х
Otoacoustic emissions test	х	SN			SN																													
Hearing assessment																						*		*	*		*		*			*		
Oral hygiene instructions	х							Х			Х			Х				Х		Х		Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Dental assessment											*			Х		Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	х	Х
Cardiologic assessment	х																																	
Blood pressure assessment2																				Х		Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Laboratorial screening (TC, HDL,																		SN						SN				x					1	
LDL, TG)																								014				^						
BCG	х																																	
B hepatitis	х			х		х		Х																										
DTP/DTPa				х		х		Х							х							Х											Х	
НВ				х		х		Х							х																			
VIPNOP				х		х		х							х							Х												
Conjugated pneumococcus vaccine				х		х		х						Х																				
Rotavirus				х		х																												
Recombinant B meningococcal					Х		Х							Х																				
C conjugated meningococcal /					x		x							х								х								x				
ACWY																																		
Influenza								Х								Х																		
Yellow fever											Х											Х												
Tetra viral														Х	х																			
A-Hepatitis														Х		Х																		
HPV																												Х						
Parasitic exam/anti-helminthic														SN		SN		SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN
Iron					Х	х	Х	Х	х	Х	Х	х	х	Х	х	Х	х	Х																
Laboratory exams														х				SN		SN		SN		SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN
(HMG/PCR/ferritin)																						2.11												
Vitamin D	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	х	Х	Х	х	Х	х	Х																
Introduction of foodstuff								х	х	Х	Х			Х																				

Legend:

\* means optional

X means recommended by the associations

SN means if necessary – depending on the medical assessment

1.NPMD – Neuro-Psychomotor Development

2.check blood pressure before 3 years of age in all the consultations if there are risk factors

3. TC: total cholesterol; HDL: high-density lipoprotein; LDL: low-density lipoprotein; TG: triglycerides

4. Order lipid panel between 2-8 years when there are risk factors

5. In endemic regions, hold prophylaxis every 6 months between 1-5 years; after that, do it annually; without the need for a previous collection for a parasite exam.

lasts during all the others. It is necessary to check the risk factors present in pregnancy and childbirth, such as: absence of prenatal care, prematurity, hospitalization during the neonatal period, kinship between parents, family history of mental illness or delays in NPMD. According to the AAP and the SBP, the assessment of growth and NPMD is mainly based on measurements of head circumference (up to 2 years of age), height, weight, calculation of the average body index, in addition to the assessment of developmental milestones. for each age, being carried out in all childcare consultations. Measurements and assessments need to be placed in graphs and tables like those found in the MS child's handbook  $^{(1,2,4,8)}$ . (ATTACHMENT 1)

It is also part of the global analysis of behavior and NPMD, the assessment of learning disorders, language disorders, attention deficit disorders, hyperactivity, sexual development, the performance of tests to identify autism and depression, as well as the identification of dependence or digital and chemical abuse.

Knowing that autism is one of the diseases that causes alterations in the NPMD and that requires early identification<sup>(9,10)</sup>, it is recommended by both the SBP and

the AAP that the Modified Checklist for Autism in Toddlers (M-CHAT) scale be applied. (ATTACHMENT 2), at 18, 24 and 36 months of age; and, at the sign of any change, the child should be referred for follow-up and stimulation <sup>(2,9,10,11)</sup>.

Regarding the use of digital screens by children, the SBP advises that the use of these should only start from the age of 2 years, and supervised use by parents is recommended for only one hour a day until they are 5 years old. From the age of 6, use must take place where parents have access to the content, maintaining use for a maximum of one hour daily. From the age of 10, digital use can be increased by two hours a day, with access times and places negotiable with parents. Always remembering to teach personal protection and safety precautions<sup>(12,13)</sup>. Excessive and early exposure to electronic and digital media devices reinforces isolation and there is no need to exchange with a non-virtual social environment, deregulates the hormone that adjusts sleep hours, favors sedentary lifestyle and obesity, decreases attention and concentration time, delays language development, impairs the development of reading skills and cognitive abilities (14,15,16,17).

Depression is a mental illness that increasingly affects the population. The SPB recommends screening for depression based on the Children's Depression Inventory (CDI) scale (ATTACHMENT 3), from the age of seven to adulthood, while the AAP recommends starting at age 12. This scale is based on phrases that should be chosen to summarize the last two weeks of their lives and aims to identify early states of more depressive mood or anhedonia<sup>(2,18,19)</sup>.

Another important assessment is that of pubertal development, with the Tanner scale (ATTACHMENT 4), created in 1969, to standardize the identification of the stages of development and sexual maturation, it must be performed at the time of the physical examination, and obligatorily from the appearance of hair, breasts, or gonads growth, it is usually recommended from 8 years of age. The appearance of sexual characters before 8 years of age in girls and 9 years of age in boys characterizes precocious puberty and should be investigated. In the same way that the absence of these characters in girls up to 13 years of age and in boys up to 14 years of age, it also requires attention<sup>(20,21)</sup>.

## **Eyesight evaluation**

Vision is one of the most important senses in a child's physical, psycho-emotional and cognitive development. At birth, the anatomical elements essential for visual processing are present, but not fully developed. This development takes place during the first 10 years, the most important period being up to 18 months of life<sup>(22)</sup>. It is known that 80% of causes of childhood blindness are preventable or treatable, for which early diagnosis is essential<sup>(23)</sup>. The vision assessment should take place in the maternity ward and after all pediatric consultations, observing in the medical interview possible risks such as: prematurity, family history of congenital cataract, retinoblastoma, metabolic, neurological or genetic diseases, existence of developmental

delays or systemic diseases that are accompanied by visual changes. In the presence of any of these, the child should be referred to a specialized care with an ophthalmologist<sup>(24)</sup>.

Visual assessment in pediatric consultations, in addition to anamnesis, comprises the red reflex test (RRT), functional assessment and visual acuity measurement (from 3 years of age)<sup>(22,24)</sup>.

The RRT, popularly known as the eye test, is a screening test for changes that can cause visual disturbances and even blindness such as cataracts, glaucoma and retinoblastoma. The RRT checks the integrity of the visual axis.<sup>(20)</sup> The recommendation is that all newborns should undergo this test before discharge from the maternity ward. After that, at least 2-3 times a year until the child is 3 years old, and from 3 to 5 years old, it should be done annually. In case of absent, asymmetric, altered or suspected reflex, the patient should be referred to the ophthalmology service for specialized care<sup>(22,25)</sup>.

Functional assessment varies with age. Before 1 year, the MS recommends using the table proposed by Baiyeroju<sup>22</sup> (ATTACHMENT 5). Afterwards, the ability to fix, locate and explore light and objects must be verified, as well as the ability to follow them and maintain gaze fixation (with both eyes and with each eye separately)<sup>(22)</sup>.

From the age of 3, visual acuity can already be examined using the Snellen chart (ATTACHMENT 6), if visual acuity is lower than  $20/40^{(0.5)}$ , one should be referred to a specialized consultation with an ophthalmologist<sup>(2, 3.22)</sup>.

The AAP recommends that consultation with an ophthalmologist occurs at 3,4,5,6,8,10,12, and 15 years<sup>(2)</sup>. According to the Department of Ophthalmology of the Paulista Society of Pediatrics, the first consultation with an ophthalmologist should be from 1 year of age and after every 2 years. As it is a Brazilian protocol, we followed this recommendation<sup>(26)</sup>.

At the time of diagnosis, all patients with delayed psychomotor development, perception of inadequate visual development, strabismus after the sixth month of life or earlier if persistent, doubts in the interpretation of the red reflex, family history of congenital cataract, glaucoma, retinoblastoma, high myopia/hypermetropia, patients with systemic diseases and syndromes, ocular malformations, extreme premature infants, persistent eye complaints and eye trauma<sup>(27)</sup>.

#### **Hearing assessment**

The maturation of the central auditory system occurs in the first year of life, so the early diagnosis of hearing deficits through screening tests allows interventions to be carried out, enabling the stimulation of development and language in the appropriate time, enabling a better quality of life. life for the child and his family. During all childcare consultations, auditory acuity should be evaluated through physical examination. (ATTACHMENT 7).

For neonatal hearing screening, the Evoked Otoacoustic Emissions (EOAE) test or Ear Test, as it is popularly known, is used. It must be performed before discharge from the maternity unit, and at the latest, before completing the first month of life. If a satisfactory response is not obtained (failure), repeat the EOAE test after a few hours. If the failure persists, immediately perform the Brainstem Auditory Evoked Potential (ABR or in triage mode). Once the hearing disorder has been identified, the patient should be referred for audiological evaluation, at most, until the third month of life and, with the confirmation of sensorineural or permanent conductive hearing loss, the intervention must begin until the sixth month of life. In addition to evaluation by a speech therapist and otolaryngologist, these children need to be referred to a geneticist and ophthalmologist<sup>(28)</sup>.

For all neonates and infants with risk indicators (family history of hearing loss, stay in neonatal ICU and use of aminoglycosides for more than 5 days, exchange transfusion, extracorporeal membrane oxygenation, hypoxic-ischemic encephalopathy, intrauterine infection: herpes, toxoplasmosis, syphilis, rubella, ZIKA and cytomegalovirus; chemotherapy, traumatic brain injury, meningitis and syndromes), the Automatic ABR test or in screening mode should be performed as a first test.

All those with ear malformations and those with failed screening tests should be directly referred for otorhinolaryngological and audiological diagnosis. Children with risk indicators, even having satisfactory results in screening tests, in addition to having monthly monitoring until they are 1 year old, should be referred at 7 and 12 months of age for specialized evaluation<sup>(28,29,30,31)</sup>.

The AAP recommends, in addition to this screening early in life, an audiological assessment at 4, 5, 6, 8, 10 years and 1 assessment between 11 and 14 years of age. Therefore, in this protocol, evaluation at these ages is suggested, and neonatal hearing screening is indicated as mandatory, with subsequent hearing evaluation, if necessary, as described above<sup>(2)</sup>.

#### **Oral healthcare**

The recommendations of the SBP, the Brazilian Association of Dentistry-Pediatric Dentistry, the American Dental Association, and the AAP all agree that the cleaning process of baby teeth and oral hygiene should be done using brushes, finger-tips or gauze wrapped around the fingers of the adult caregiver, with the use of fluoride toothpaste (amount of a grain of raw rice up to 3 years, a grain of pea after) twice a day, one of them before bed, as soon as the first baby tooth erupts in the oral cavity. Up to 3 years of age, brushing must be performed by an adult and from 3 to 5 years of age it must be reviewed by the same<sup>(2,32,33,34,35)</sup>.

The first dental evaluation should take place when the infant erupts, around 6 months of age. This first appointment should be before the child turns 12 months of age. After that, follow-up should occur every six months to avoid cavity formation or tooth loss<sup>(32,33,35)</sup>.

## **Cardiological assessment**

Pediatric cardiology assessment begins at birth to look for critical congenital heart disease. In this sense, measurement

through pulse oximetry becomes routine in apparently healthy newborns with a gestational age > 34 weeks, having shown a high sensitivity and specificity for early detection of these heart diseases. The little heart test, as it is popularly known, must be performed before discharge from the maternity ward, between 24-48 hours of life, according to the recommendations of the SBP, MS and AAP. If there is a change in this screening test, an echocardiogram should be performed, still in the maternity ward, for further evaluation<sup>(2,3,36)</sup>.

Cardiological follow-up continues regularly with physical examination and blood pressure measurement once a year, starting at 3 years of age. In patients with risk factors, such as: obesity, renal, cardiac alterations, diabetes, preterm infants less than 32 weeks, transplant patients, users of medications that affect blood pressure or signs of increased intracranial pressure, need to have their arterial blood pressure assessed at each consultation, even before 3 years of age<sup>(2,37,38)</sup>.

Dyslipidemias are usually caused in children due to dietary errors with excess fat, weight and sedentary lifestyle. Some cases have a genetic cause of familial diseases.<sup>(39)</sup> To avoid late diagnosis and complications, the SBP and the Brazilian Guidelines on Dyslipidemias and Prevention of Atherosclerosis recommend screening the lipid profile (total cholesterol, lowdensity lipoprotein-LDL and high-density lipoprotein; HDLdensity, triglycerides) for every child aged nine years and older, or children aged two to ten years who have the following factors: parents or grandparents with a history of early ischemic arterial disease, parents with total cholesterol greater than 240 mg/dL, and who have other diseases or risk factors for atherosclerosis, children who have diseases that progress with dyslipidemia, use drugs that alter the lipid profile, have clinical manifestations of dyslipidemia (xanthomas, xanthelasma, corneal arch, recurrent abdominal pain and pancreatitis). If abnormal, the lipid profile should be repeated between 2 weeks and 3 months<sup>(38,39,40,41)</sup>. Instructions on healthy lifestyle habits is recommended for the children and their families. As well as follow-up with a pediatrician and nutritionist, in addition to encouraging physical activity from 2 years of age and evaluation of pharmacological treatment, if necessary, after 10 years of age (this is after at least 6 months of intensive modification of the lifestyle, serum LDL levels are still high)<sup>(40,41)</sup>.

#### Vaccination schedule

The vaccination schedule proposed by the SBP in 2020 was designed for healthy children and adolescents (from birth to 19 years of age). The MS based itself on this calendar to create the National Vaccination Calendar, composed of 15 vaccines administered before 10 years of age <sup>(42)</sup>.

The SBP vaccination schedule initially consists of the BCG vaccine (Bacillus Calmette-Guérin, against tuberculosis) and the hepatitis B vaccine. At two months of age, vaccination against hepatitis B, rotavirus, diphtheria/tetanus/pertussis (DTP/DTPa), Hemophilus Influenza type B (Hib), pneumococcal conjugate (by the National Immunization Program performed the 10-valent vaccine, but the SBP recommends the 13-valent vaccine) and inactivated polio vaccine (IPV). At three months, meningococcal conjugate C or ACWY and meningococcal B recombinant vaccines are performed. At four months, the 2-month vaccines are repeated. At five months, the 3-month vaccines are repeated. At six months, the 2- and 4-month vaccines are repeated, except for the rotavirus vaccine. From the age of six months, vaccination against influenza begins according to the campaign season, with two doses initially and then a single dose per year until the age of 5 in the public network. The yellow fever vaccine is recommended as of 9 months of age. At 12 months of age, the pneumococcal conjugate vaccine, the meningococcal conjugate C or ACWY and meningococcal B recombinant vaccine, and the triple viral and chickenpox, or tetra viral vaccine (measles, mumps, rubella, chickenpox), in addition to the first dose against hepatitis A. At 15 months of age, DTP/DTPa, Hib, attenuated oral polio vaccine (OPV), and a tetra viral booster are recommended at 18 months, the second dose against hepatitis A is performed. From 4 to 6 years of age, DTP/DTPa, OPV, and meningococcal conjugate C or ACWY are administered, and yellow fever booster. At the age of nine, vaccination against human papillomavirus (HPV) begins, with two doses with an interval of 6 months between them, and the vaccine against dengue, only if previous infection is proven. At age 11, meningococcal conjugate C or ACWY is recommended. At age 13, the vaccine against diphtheria, tetanus and acellular pertussis is boosted<sup>(43)</sup>.

For those with immunodeficiencies or in specific epidemiological situations, the recommendations may change. When vaccination is started outside the ideally recommended age, schedules can be adapted according to the age of onset, respecting the minimum intervals between doses. All vaccines can cause adverse events, generally mild and transient, which should be reported to the family. The notification of any adverse event is essential to maintain the safety of vaccines licensed in our country<sup>(43)</sup>.

## **Evaluation of intestinal parasites**

The orientation of prophylactic treatment of verminosis, according to the SBP, should be used in children living in endemic areas (considering the national territory, it covers almost all of Brazil). It should be started from 1 year of age, being performed every 6 months until 5 years of age and after that once a year until 15 years of age<sup>(38)</sup>.

In cases of children without risk factors and who do not live in an endemic area, a complementary investigation should be carried out when the child presents symptoms suggestive of verminosis (loss of appetite, anemia, abdominal pain, vomiting, weight loss, anal itching), through serial stool examination (3 samples) and the search for the appropriate parasites. If positive, perform treatment with antiparasitic drugs<sup>(38,44)</sup>.

#### Iron supplementation

Due to its importance for child development, since 2005 Brazil has implemented a National Iron Supplementation Program. The last recommendation made in 2018 by the SBP provides for prophylactic supplementation with a dose of 1mg/kg/day of elemental iron from 3 to 24 months of age, regardless of the breastfeeding regimen. In term and premature newborns weighing between 1.5kg and 2.5kg, it is recommended to start from the 30th day of life with 2mg/kg/day of elemental iron, for premature newborns between 1.5kg and 1kg, administer 3mg/kg/day and for those born weighing less than 1kg, give 4mg/kg/day. After the 12th month until 24 months, prescribe 1mg/kg/day of elemental iron for all<sup>(38,45)</sup>.

At 12 months of age, both the SBP and the AAP recommend a screening to assess iron deficiency, by performing a blood count, measurement of ferritin and C-reactive protein<sup>(2,45)</sup>. From that age onwards, this screening should occur according to complaints or symptoms, whenever necessary. In case of iron deficiency and iron deficiency anemia, replacement of 3-5mg/kg/day of elemental iron is indicated before meals, for at least eight weeks or until the condition improves. To monitor the improvement of anemia, it is recommended to perform a blood count every 30-60 days, and ferritin measurement every 30-90 days<sup>(45,46)</sup>.

## Vitamin D supplementation

The prevention of hypovitaminosis D is indicated, according to the SBP guidelines, for children exclusively breastfed or using less than one liter of complementary formula per day, starting soon after birth until they are 2 years old, but the exact duration of this supplementation should be individualized<sup>(38,47)</sup>. For preterm infants, start supplementation after reaching 1.5 kg when oral intake is tolerated. The SBP's Department of Nutrology recommends giving children aged 0-1 years 400 IU/day of vitamin D; and for those over 1 year of age, administer 600 IU/day (48). In view of the deleterious effects of sun exposure, vitamin D supplementation should preferably be done through medication<sup>(49)</sup>.

Universal screening for hypovitaminosis D is not indicated, according to the SBP, it should only occur in risk groups: insufficient exposure to sunlight, intestinal malabsorption syndromes, liver disease, nephropathy, use of certain medications, prematurity, children with reduced synthesis through the skin, food intake, obese or symptomatic patients <sup>(47,48)</sup>. The definition of hypovitaminosis D varies from serum levels of 25-OH vitamin D less than 12 ng/mL to less than 29 ng/mL, there is no consensus. Treatment with vitamin D supplementation should be individualized according to age group, and daily replacement can be from 2000IU-8000IU/day, lasting from 8-12 weeks, depending on the age group<sup>(48,49,50)</sup>.

## **Food introduction**

Breastfeeding is recommended for up to 2 years of age; and it is recommended exclusively for up to 6 months. From then on, the introduction of complementary foods begins, with mashed or chopped fresh fruit porridge and a main porridge with various foods (cereals, tubers, animal protein, legumes and vegetables) for lunch or dinner (Attachment 8). From the 7th to the 8th month of life, the second main porridge can be started: without salt or sugar in the portions. Feeding should be carried out three times a day if the child is still receiving breast milk and five-times-a-day if the child is weaned. The offer of food must be carried out without restriction of schedules. The consistency of the meal should be thick, and initially pasty. From the 9th month of life, the child can move on to the family meal, gradually and with consistent adjustment. From one year of age the baby can start eating the same foods as the family. The amount of food ingested must be determined by the child, which varies with age. Avoid coffee and sweets in the first years of life<sup>(38,51)</sup>.

## CONCLUSION

The unified protocol facilitates the attendance of pediatric consultations, promotes the improvement of the quality and effectiveness of actions. It allows children to be evaluated in a general and correct way, ensuring good growth and development, as well as early identification of necessary interventions.

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## **ATTACHMENTS**

Attachment 1. Images from the Child's Health Card from the Ministry of Health.







Source: Child Health Handbook. Department of Strategic Programmatic Actions. Ministry of Health. HealthCare Department. General Coordination of Child Health and Breastfeeding. 12th edition. 2019

Residência Pediátrica; 2022: Ahead of Print.

Attachment 2. Modified Scale for Autism in Toddlers (M-CHAT)

M-CHAT for parents or guardians - children between 18 and 24 months

Name of parent or guardian: \_\_\_\_\_

Name of child:

Sex: ( ) F ( ) M Birthdate: \_\_\_/\_\_/ Age: \_\_\_\_

Date the test was filled out: \_\_\_ / \_\_\_ / \_\_\_

Please, answer the following questions as to how your son/daughter usually behaves:

	Your son/daughter	Yes	No
1	Likes to rock, jump on your knee, etc.?		
2	Is interested in other children?		
3	Likes to climb on things, such as stairs or furniture?		
4	Likes to play hide-and-seek and show the face		
5	Plays "make-believe"		
6	Uses his/her index finger to POINT and ASK for something?		
7	Uses his/her index finger to POINT and show something of his/her interest?		
8	Plays properly with small toys (cars or blocks) without only placing the toys in the mouth, fiddle with it or through the toy?		
9	Brings objects to you to show something ?		
10	Looks at you in the eyes for more than one or two seconds?		
11	Is hypersensitive to noise (feels worse than others), may cup the years		
12	Smiles responding to your face or your smile		
13	During a play, if you make a body expression or a face, your son (daughter) imitates you?		
14	Answers when you call him/her by name		
15	If you point to a toy that is far from your son/daughter, he/she looks at the toy?		
16	Can walk already?		
17	When you and your son are together doing something, does your son/daughter		
	look at what you are looking at?		
18	Does strange movements with the fingers near his/her own face		
19	Tries to attract your attention for his/her activity (ies)		
20	Have you ever asked yourself if your son/daughter is hard-of-hearing		2
21	Does your child understand what other people say?		
22	Does he/her is sometimes "wondering", looking at nothing or walking without a	1	
	clear direction?		
23	Looks at your face to see your reaction when sees something different, unfamiliar?		

Did you have any question upon answering any of these questions:

() No

( ) Yes. Which: \_\_\_\_\_

Source: Losapio MF, Pondé MP. Transalation into Portugues of the M-CHAT scale for the early tracking of autism. Psychiatry Journal (Rio Grande do Sul). 2008;30(3):221-229

Attachment 3. Children's Depression Inventory Scale (CDI)

Cho	Child Depress	thoughts in the last two weeks!
	1	12
a. b. c.	I get sad from time to time I get sad often I'm always sad	a. I like being with people b. Often, I do not like being with people c. I do not like being with people
	2	13
a. b. c.	For me, everything will work out I'm not sure if things will work out for me Nothing is going to work for me	a. I am good looking b. My appearance has some negative aspects c. I'm ugly
	3	14
a. b. c.	I do well most things I do wrong most things I do everything wrong	a. I sleep well at night b. I have trouble to sleep some nights c. I always have trouble to sleep at night
a. b. c.	4 I have fun with many things I have fun with some things Nothing is fun for me	15 a. I get tired from time to time b. I often get tired c. I'm always tired
	5	16
a. b. c.	I'm mean from time to time I'm often mean I'm always mean	a. I do not feel alone b. I often feel alone c. I always feel alone
	6	17
a. happen t b.	From time to time, I think that bad things will to me I fear that bad things happen I'm sure that terrible things will happen to me	a. I often have fun at school b. I have fun at school from time to time c. I never have fun at school
w.	7	10 a Bm as mod as other children
a. b.	I like myself I do not like myself	b. If I want, I can be as good as other children c. I can not be as good as other children
C.	I hate myself	19
a. happen	o Normally, I do not feel guilty for the bad things that	a. I'm sure that I am loved by someone b. I'm not sure if anyone loves me c. Nobody really likes me
b.	Many bad things that happen are my fault	20
C.	Everything bad that happens is my fault	a. I always do what I'm told
	9 Lide net thick shout 125 no museli	b. I often do not do what I'm told
a. b. c.	I think about killing myself, but I would not do I want to kill myself	c. I never do what i'm toid
	10	
a. b. c.	I feel like crying from time to time I often feel like crying I feel like crying every day	
a.	I feel worried from time to time	

Source: Kovács M. The Children's Depression Inventory: A self-rated depression scale for school - aged youngsters. University of Pittsburgh School of Medicine, Department of Psychiatry, Western Psychiatric Institute and Clinic, 1983.

#### Attachment 4. Tanner scale for both genders



Source: Treaty of Peditrics: Brazilian Society of Pediatrics, 4th Edition, Barueri, SP: Manole, 2017.

Behavior	Age									
	Newborn	6 weeks	3 months	4 months	5 months +					
Blinks when facing a light flash?	Must do. If not	, suspect prob	olem.							
Turns towards diffuse light?	Not expected for age	Can do	Can do Must do. If not, suspect of problem							
Fixates and follows the face up close?	Not expected for age	ot, suspect of problem								
Looks at the adult at 3/4 meter?	Not expected for age	Can do	Must do, if not, suspect of problem							
Fixates and follows balls moving?	Not expected for age	Not expected Can do Must do, if not, suspect of problem for age								
Observes the adult at 1.5 meter?	Not expected for age	Can do		Must do, if not, suspect of problem						
Converges accurately?	Not expected for age	Can do		Must do, if r	not, suspect of problem					
Blinks when facing danger?	Not expected for age	Not expected for age	Not expected for age	Can do	Must do, if not, suspect of problem					
Fixates and tries to reach the object?	Not expected for age	Not expected for age	Can do		Must do, if not, suspect of problem					

Attachment 5. Ophthalmologic evolution for 1 year of life.

Source: Guidelines for eye care in Children: early detection and intervention to prevent visual disorders / Ministry of Health, Healthcare Secretariat, Department of programmed strategies – Department of specialized care. 2ed. Brasília: Ministry of Health, 2016.

Attachment 6. Snellen's Chart

E	1	20/200
FР	2	20/100
TOZ	3	20/70
LPED	4	20/50
PECFD	5	20/40
EDFCZP	6	20/30
FELOPZD	7	20/25
DEFPOTEC	8	20/20
LEFODPCT	9	
<b>FDFLTCEO</b>	10	
	11	

Source: NESCON- Education Center for Collective Health Care. Chart to assess visual accuity-3.

Attachment 7. Monthly assessment of auditory development in children's examination

New-born	Wakes up with high sounds					
0-3 months	Calms down with moderately strong sounds and music					
3-4 months	Pays attention to sounds and vocalizes					
6-8 months	Locates the sound source; mumbles sounds; such as "dada"					
12 months	Increases mumbling frequency and starts to produce the first words; understands simple orders, such as "says goodbye"					
18 months	Speaks, at least six words					
2 years	Produces sentences with two words					
3 years	Produces sentences					

Source: Guidelines for Care in Neonatal Auditory Screening / Ministry of Health, Healthcare Secretariat, Department of programmed strategies – Department of specialized care. Brasília: Ministry of Health, 2012.

Attachment 8. Chart of nutritional food groups.

Cereal or tubercle	Legume	Animal protein	Vegetables
Rice	Beans	beef	vegetables
Corn	Soy	innards	lettuce
Pasta	Peas	Chicken	Kale
Potatoes	Lentils	Pork	Cabbage
Manioc	Chickpea	Fish	Legumes
Yam		Eggs	Tomatoes
Brazilian Yam			Pumpkin
Wheat flour			Carrot
Oatmeal			Cucumber

Source: Feeding Manual: Instructions for the feeding of infants to adolescents, in school, in pregnancy, disease prevention and food security / Brazilian Society of Pediatrics. Scientific Department of Nutrology. 4th.ed. São Paulo: SBP, 2018.