PREGLED LITERATURE - REVIEW ARTICLE

Paediatric Well Child Care in the First Year of Life

Pedijatrijski pregledi i imunizacija u prvoj godini života

Ivana Kalanovic Dylag 1, Andrew Dylag, 2, Zorica Živković 3,4

¹Rainbow Babies and Children's Hospital, Cleveland, Ohio, United States of America
 ² Rainbow Babies and Children's Hospital, Cleveland, Ohio, United States of America
 ³ Medical Center Dr Dragisa Misovic, Children's Hospital for Lung Diseases and Tuberculosis, Belgrade, Serbia
 ⁴ Faculty of Pharmacy Novi Sad, Serbia

Summary

Well child care is a discipline within paediatrics that evaluates the progression of a patient's nutrition, development, psychosocial advancement, physical examination, and immunization status at specific time points throughout childhood. One vital component of well child care is to designate time for age-appropriate anticipatory guidance about upcoming developmental milestones; therefore promoting optimal health and preventing injury. Many countries developed nationally recognized preventive programs for the first year of life including the immunization schedule. In many countries worldwide general practice physicians and/or nurses supervise child development and immunizations. The article summarizes well child care in the United States in the first year of life recommendations provided by The American Academy of Paediatrics.

Key words: infants, development, immunization

Sažetak

Razvojna pedijatrija je posebna disciplina u okviru pedijatrije, koja se bavi praćenjem rasta i razvoja deteta, ishranom , psihosocijalnim aspektom, sistematskim pregledima i imunizacijom. Jedan od zadataka razvojne pedijatrije je utvrditi kliničke vodiče koji omogućavaju praćenje razvojnih karakteristika prema uzrastu , ali i ostali zadaci su bitni - promocija optimalnog zdravstvenog stanja i prevencija povredjivanja.Mnoge zemlje imaju nacionalne programe za preventivnu pedijatriju u prvoj godini života, uključujući i precizno definisane šeme imunizacije. U nekim zemljama, ovaj posao sprovode lekari opšte prakse i /ili obučene meidinske sestre. Imajući u vidu , razlike u izvodjenju ovih programa preventivne pedijatrije u Sjedinjenim američkim državama, želimo da iznesemo preporuke koje je izdalo Američko udruženje za pedijatriju.

Ključne reči: deca, razvoj, imunizacija

Introduction

Paediatricians have the privilege to help build a child's foundation in health that will guide them into adulthood (1). Well child care is a discipline within paediatrics that evaluates the progression of a patient's nutrition, psychosocial advancement, development, examination, and immunization status at specific time points throughout childhood. One vital component of well child care is to designate time for age-appropriate anticipatory quidance about upcoming developmental milestones; therefore promoting optimal health and preventing injury (1). Many European countries, such as France and Sweden. have general practice physicians and/or designated nurses that supervise general development and immunizations, only referring patients to a paediatrician for care outside their scope of practice (2). In the United States, paediatricians provide both well child care and treat acute illnesses in a primary care setting, an established "medical home".

The American Academy of Paediatrics (AAP) and Bright Futures recommend that children receive twenty-nine well child visits between birth and 21 years of age (Figure 1); eleven of them within the first three years of life (1). This article outlines paediatric well child care in America in the first year of life, with recommended visits at birth, 1 month, 2 months, 4 months, 6 months, 9 months, and 12 months of age.

In America, well child care begins before newborn hospital discharge and is focused on disease screening. All neonates receive the newborn screening panel blood test, a state-dependent selection of diseases with results tracked in a national registry. This screening focuses on illnesses where proper early therapy can slow disease progression and improve outcomes (3). Panels concentrate on conditions such as, cystic fibrosis, sickle cell anemia, congenital hypothyroidism, and inborn errors of metabolism (3). The next preventative testing is critical congenitalheart disease (CCHD) screening, performed when the patient is greater than 24 hours old. By obtaining pre- and post-ductal

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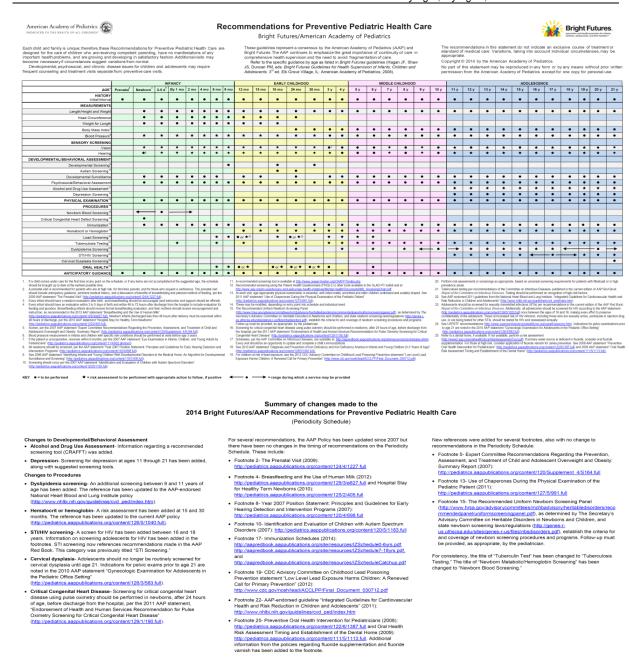


Figure 1. Recommendations for Preventive Paediatric Health Care

oxygen saturations, usually in the right hand and one foot, critical cyanotic heart lesions can be identified that may have been missed on prenatal ultrasound (4).

A pulse oximetry reading greater than or equal to 95% in either extremity with a less than or equal to 3% difference between extremities is considered a pass; any failed screen requires further testing and/or evaluation by a paediatric cardiologist (4). Finally, the AAP recommends all babies receive a hearing screen within the first month of life called Auditory Brainstem Evoked Response testing or ABER (5). This testing evaluates a baby's brain response to sound, even while the infant is sleeping. Most infants have this performed before hospital discharge and will follow up with audiology for a failed screen. Any infant identified with

hearing impairment should receive therapy by six months of age; thus fostering speech and language skills, academic progression, and social-emotional development (5).

After hospital discharge, preventative care continues with a primary care paediatrician. The first office visit is at about 3-5 days of life to establish care and evaluate feeding, weight, and jaundice risk factors (6). Anticipatory guidance by the paediatrician addresses issues including car seat safety, tobacco avoidance, and safe sleep. Families are also educated that a fever of 38 Celsius or greater is considered a medical emergency requiring medical evaluation for sepsis. Finally, the first vaccine recommended by the Centers for Disease Control and Prevention immunization

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schedule is for Hepatitis B, given either upon hospital discharge or during this first appointment (7).

The next recommended visit by the AAP is by one month of life to again monitor growth during this critical time of development (6). For these and all future visits, referenced by Figure 1, the AAP recommends evaluation of length, weight, head circumference, and weight for length growth parameters. These values are plotted on growth curves and percentiles are followed at each future visit. In addition, vision, hearing, and developmental and behavioral assessments are completed. Anticipatory guidance at this age reinforces the teaching from birth and after hospital discharge.

Subsequent visits for examination and immunization are at two, four, and six months of age. Growth and development are again assessed while providing evaluation of age-specific milestones (6). Anticipatory guidance focuses on prevention of Sudden Infant Death Syndrome (SIDS), proper nutrition, and illness prevention. Early on, sleep routines are discussed with parents encouraging babies to be placed on their backs to sleep.

At the four month visit, paediatricians will discuss the introduction of solid food often beginning with rice cereal. Before babies become mobile, safety proofing of the home is an important topic to be addressed to prevent infant injury. Scheduled vaccines at these three visits include Rotavirus, Hepatitis B, Diphtheria, Tetanus, Acellular Pertussis, Haemophilus Influenza Type B, Pneumococcal Conjugate Valence 13, and inactivated Poliovirus. During influenza season, the first vaccine dose can be given at 6 months of age with a second dose 4 weeks later (7).

The next well-child visit at 9 months focuses specifically on childhood development. Specific screening measures are utilized to evaluate parental observation of milestone attainment. The Parents' Evaluation of Developmental Status (PEDS) is a screening tool used to identify delays and problems in behavior that may need further evaluation (8). It focuses on gross and fine motor development and communication skills. Example questions include evaluating for eye contact and pincer grasp at 9 months of age. By identifying deficiencies, children can be referred for more testing and/or therapy. Early intervention is in ensuring the child reaches their full neurodevelopmental potential (8). Resources are provided at the state level until preschool age. Anticipatory guidance continues to address the safety of a very active baby who may already be crawling. The paediatrician will also likely encourage foods with a variety of textures and starting healthy snacks. There are often no vaccinations given at the 9 month visit, though this is clinic dependent.

The final preventative visit of the first year is at 12 months. In addition to routine assessments, the one year well child visit consists of screening for iron deficiency anemia and lead poisoning that can lead to neurologic impairment (9). In the United States, lead poisoning found in house paint is a primary cause of anemia and families are routinely educated about this hazard. This is also the appropriate time for fluoride varnish to be applied to teeth,

either in the dentist or paediatrician's office. When applied every 6 months up to 3 years of age, fluoride treatment reduces caries by 38% over a two year span (10). If they have not yet started, children are encouraged to start brushing teeth at last two times a day. Paediatricians also prepare parents for the upcoming milestones of walking and language acquisition emphasizing a safe environment free of potential harm. Finally, this visit includes first doses of Measles, Mumps, Rubella, Varicella, and Hepatitis A vaccines (7).

Well child visits are the cornerstone of preventative paediatric care. The physician spends these appointments evaluating the health of the child and providing education to the entire family. By having well-established guidelines established by the AAP, paediatricians can monitor growth and development at fixed intervals and provide age-specific screening. Delivery of thorough and effective well child care allows paediatricians to assist children and their parents prevent illness and develop healthy habits that will follow them for a lifetime.

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Correspondance to:

Ivana Kalanovic Dylag M.D., Rainbow Babies and Children's Hospital, Cleveland, Ohio, United States of America Ivana.kalanovic@gmailcom

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