

# ADAPTING YOUR PRACTICE

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*Treatment and Recommendations  
for Homeless Children  
with Otitis Media*

## Otitis Media



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### *Treatment and Recommendations for Homeless Children with Otitis Media*

Health Care for the Homeless  
Clinicians' Network

2003

**DISCLAIMER**

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## **PREFACE**

Clinicians practicing in Health Care for the Homeless (HCH) projects\* and others who provide primary care to people who are homeless or at risk of homelessness routinely adapt their medical practice to foster better outcomes for these patients.

Standard clinical practice guidelines often fail to take into consideration the unique challenges faced by homeless patients that may limit their ability to adhere to a plan of care. Recognizing the gap between standard clinical guidelines and clinical practices used by health care providers experienced in the care of individuals who are homeless, the HCH Clinicians' Network has made the adaptation of clinical practice guidelines for homeless patients one of its top priorities.

The Network Steering Committee and other primary care providers, representing HCH projects across the United States, devoted several months during 2002–03 to developing special recommendations for the treatment and prevention of ear infections in children who lack residential stability. These recommendations reflect their collective experience in serving children who are homeless.

We hope these recommendations offer helpful guidance to primary care providers who serve patients without homes, and that they will contribute to improvements in the quality of care for disadvantaged children with acute ear infection/effusion and outcomes of that care.

Patricia A. Post, MPA  
HCH Clinicians' Network

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## INTRODUCTION

*Otitis media* (inflammation of the middle ear) is highly prevalent among homeless children, whose exposure to respiratory infections and secondhand smoke in congregate living situations and limited access to a regular source of primary care increase their risk for chronic infection and hearing loss associated with delays in speech, school performance, and social development. Residential instability and the damaging effects of emotional and behavioral health problems on many homeless families complicate the provision of adequate medical care, even when it is available and accessible to them. The following research findings document these risks:

Poverty has a negative impact of on children's health, achievement and behavior (Brooks-Gunn and Duncan, 1997). Despite similarities in the health status of poor children who are housed and those who are homeless, there are marked differences. Homeless children have more acute and chronic health problems, including asthma, anemia, ear infections, elevated lead levels, and dental problems (Berti, 2001; Redlener, 1999; Weinreb et al, 1998; Rubin et al, 1997; AAP, 1996). There are more speech delays in homeless toddlers (National Center on Homeless Families, 1999), and poorer academic performance in school-age homeless children due to missed school (Eddins, 1993) and behavior problems (Wood, 1992), as well as growth delay (Fierman et al, 1991), developmental delay, anxiety, depression, and learning difficulties (Aber, 1997; Eddins, 1993; Bassuk, Rubin and Lauriat, 1986).

As might be expected in families that move frequently, homeless children are often behind in their immunizations (Wood, 1992). Typically these children do not have a regular source of primary care ("medical home"). Without easy access to health care services, chronic illnesses such as recurrent otitis media often go undiagnosed and untreated. Multiple, untreated ear infections can result in hearing loss that may delay speech and eventually affect school performance and social development. Socioeconomically disadvantaged children, such as those who are homeless, may be more vulnerable than other children to the effects of otitis media on language development (Paradise et al, 2000).

Ear infection is the third most common health problem seen in children by Health Care for the Homeless providers, after minor upper respiratory infections and minor skin infections (Wright, 1990). Living in shelters or doubled up with other families, in daycare or at school, homeless children are frequently exposed to upper respiratory infections, which are associated with increased risk for otitis media (Colborn DK et al., 1997). A study in New York found that homeless children in the city's shelters suffered from otitis media at a rate 50 percent higher than the national average (27% versus 18%) (Redlener, 1999). Children in homeless families are also frequently exposed to secondhand smoke, which has been demonstrated to increase the risk of recurrent ear infections in young children (Ilicali, et al., 2001; Adair-Bischoff CS, et al., 1998). Higher rates of smoking have been reported among homeless people than in the general population (Sachs-Ericsson NS et al., 1999; Weinreb et al., 1998).

## ADAPTING YOUR PRACTICE:

Clinical practice guidelines for children with otitis media who are homeless are fundamentally the same as for those who are housed. Nevertheless, primary care providers who routinely care for homeless children recognize the need to take their living situations, the mobility of this population, and difficulty with follow-up into consideration when developing a plan of care. It is our expectation that these simple adaptations of established guidelines will improve treatment adherence and patient outcomes. The treatment recommendations in this guide were compiled to assist clinicians who provide primary care for children who are without a home.

Otitis Media with Effusion in Young Children, Clinical Recommendations (AAFP, 2002), Managing Otitis Media with Effusion in Young Children, Practice Guidelines (AAP, 1994), and Acute Otitis Media, Clinical Guidelines in Family Practice (Uphold & Graham, 1998) are the primary source documents for these adaptations. Recommendations found in these guidelines are not restated in this document except to clarify a particular adaptation.

### CASE STUDY: HOMELESS CHILD WITH OTITIS MEDIA

D.H. is a 2½-year-old African American male who presented with the complaint of wheezing. He and his mother are residing in an overnight shelter and were seen in the day shelter for women and children. The child goes to a local clinic and has lived his whole life in Baltimore.

**Medical history:** The patient's last well-child check-up was six months ago, when his diagnosis was asthma, speech delay, and chronic otitis media. A hearing test was not ordered. His immunizations are up to date, according to his mother. Prescribed medications: Albuterol in a nebulizer and Albuterol syrup for asthma. The nebulizer was last used one month ago.

D.H.'s mother stated that he does not listen to her, especially when she calls to him from a distance. He has never been seen by an ear, nose and throat (ENT) specialist, although his mother stated that his primary care provider (PCP) had mentioned that this referral may be made.

**Physical exam:** The tympanic membranes were noted to be retracted on examination, with decreased light reflex and mobility. On further questioning, the patient's mother stated that he had an "ear infection" for a "whole year" last year. He was last treated six months ago. His mother stated that she often did not complete the entire course of medication, but would stop when the child felt better or when she moved from one relative to another and left the medication at the previous house.

**Treatment & follow-up:** Amoxicillin was ordered, the prescription was filled, and the PCP was notified of the treatment given and the family's current living situation. The PCP was encouraged to order an ENT referral as soon as possible so that follow-up can occur while the family is still in shelter.

# Pediatric Otitis Media

## *Diagnosis and Evaluation*

### **HISTORY**

- **Housing & medical home** Ask specific questions to determine whether the family is homeless (“Where do you live? Who lives where you live? How long have you lived there? Where did you live before?”) At every visit, document patient’s housing status and living conditions, list barriers to consistent treatment, and ask if child has a “medical home” (regular source of primary care). If so, is family able to access this medical home? Is transportation a barrier? Does patient’s regular primary care provider demonstrate sensitivity to the needs of homeless children and families? Ask these questions in several different ways to elicit desired information.
- **Exposure to viral illness** Ask whether patient is in school or daycare, how many children s/he is playing with, and if anyone in recent contact with the child is sick. (Exposure to viral illness in congregate living situations is a primary risk factor for otitis media.)
- **Exposure to smoke** Ask whether parent or other “household” member smokes, and whether mother smoked during pregnancy with this child. Prevalence of smoking among homeless people is higher than in the general population. (Parental smoking and passive smoke exposure increase the incidence of otitis media.) Ask about passive exposure to substances other than nicotine, such as marijuana or crack cocaine.
- **Breast vs. bottle feeding** Ask if infant is being breastfed, and if not, why not, to identify cultural or other barriers to breastfeeding. Ask this in a nonjudgmental way. An infant who is breastfed obtains passive immunity from his mother. Although the exact reason is unclear, children who are breastfed seem to have fewer ear infections than bottle fed infants (Hanson, 1999).

Mothers who are actively using amphetamine, cocaine, heroin, or phencyclidine should not be encouraged to breastfeed their infant (AAP, 2001). Provider must also take into consideration possible effects of other drugs or any maternal infection with potential for transmission to infant in breast milk before encouraging a mother to breastfeed. Breastfeeding is not recommended for HIV-positive mothers if there is a safe alternative – i.e., if infant formula is available, if there is access to clean water to prepare formula milk and cleanse bottles and nipples, if refrigeration is available to store prepared formula, and if mother has ability to manage formula feeding with appropriate hygiene (CDC, 2001).

If bottle feeding, ask whether infant holds bottle and drinks from it while lying on back. (This may increase risk of ear infection.) Bottle “propping” may be indicative of parental stress and/or lack of time to spend holding child. Mothers who are depressed or distracted by the highly stressful experience of homelessness may not be able to give adequate attention to their children.

- **Sleep disturbance** Ask if child has trouble sleeping related to apparent ear discomfort. Interrupted sleep can raise already high stress levels for a homeless family, especially if sleeping in a shelter.
- **Hearing difficulties, delayed speech** Ask when child was last screened for hearing. Ask questions to elicit information about possible hearing difficulties and speech delays. (Does child have trouble listening? Does child speak as well as other children of the same age?) Recognize that developmental delays may also result from poor prenatal care, premature birth and/or weak parenting skills, which are frequent consequences of homelessness.
- **Development/ behavior** Inquire about child’s interaction with family members and behavior at daycare or school. Difficulty hearing can cause a child to be frustrated and may be misdiagnosed as a behavior problem. Hearing and/or speech problems may be masked by behavior problems that can affect child’s emotional development. Behavior problems also occur in response to the stress of living in a shelter and feeling ostracized by other children. (Evaluations such as the Denver Developmental Screening Tests (DDST) are appropriate in this setting.)
- **Missed school** If child is school age, inquire about attendance, especially missed days due to ear discomfort or other illnesses.
- **Prior ear infections/treatment** Ask about patient’s past ear infections (how many?) and whether/how they were treated, in addition to symptoms and duration of current complaint. Determine if child received a full course of any antibiotic treatments. Lack of treatment or inadequate/incomplete therapy for an ear infection may result in late complications such as mastoiditis or hearing loss.
- **Other medical history** Always take the opportunity to ask about medical conditions for which homeless people are at increased risk (e.g., asthma, anemia, malnutrition/obesity, lead toxicity, tuberculosis, sexually transmitted diseases, alcohol and drug problems) that may directly or indirectly affect the child’s health. This is especially important, given homeless families’ limited access to health screening, mental health care, substance abuse treatment, and specialty care in general. Ask about HIV infection in parent or child. HIV-infected children are susceptible to recurrent ear infections. They may also have speech and language disabilities related to effects of HIV virus on the developing central nervous system (Retzlaff, 1999).

## PHYSICAL EXAMINATION

- **General** Do complete pediatric exam at every visit, according to standard clinical guidelines (e.g., *American Academy of Pediatrics guidelines: [www.aap.org/policy/paramtoc.html](http://www.aap.org/policy/paramtoc.html)*) and Early and Periodic Screening, Diagnosis and Treatment (EPSDT) services required for children on Medicaid (See: *Early and Periodic Screening, Chapter 05, State Medicaid Manual: [www.cms.hhs.gov/manuals/pub45/pub\\_45.asp](http://www.cms.hhs.gov/manuals/pub45/pub_45.asp)*). Whatever the chief complaint, use visit as an opportunity to identify and address all problems. Remember that this may be your only contact with the family. Homeless families may not see a medical provider unless their child is sick.
- **Otologic examination** Good evaluation of appearance of tympanic membranes is vital for prompt diagnosis. If cerumen is present, enough must be removed to allow inspection of eardrum. Irrigation should be avoided unless there is no suspicion of underlying perforation of tympanic membrane. Because follow-up may not be possible, use of a curette and otoscope is preferable for homeless children; use of hydrogen peroxide drops may help dissolve wax, but requires one or more return visits, which may be more difficult to arrange with homeless families. Clear distinction should be made between a well aerated middle ear, one that is filled with sterile effusion (retracted appearance, dull, with loss of light reflex), and one with acute otitis media filled with purulent effusion (bulging with a white or yellow creamy appearance). Redness alone (in absence of fluid) does not indicate a middle ear infection.

## DIAGNOSTIC TESTS

- **Pneumatic otoscopy, tympanometry** These tests help to confirm presence of fluid behind the tympanic membrane, and thus support the diagnosis of acute otitis media or middle ear effusion. While not necessary to make the diagnosis, they can be helpful if examiner is unsure of middle ear status by routine otoscopy alone.
- **Hearing screening** Do a routine audiometric screening at every visit, especially if child has a history of otitis media. Suspicion of hearing loss should trigger referral to an audiologist to conduct a formal diagnostic test. Emphasize importance of Early and Periodic Screening (including hearing), Diagnosis and Treatment (EPSDT) as part of primary care – covered services under Medicaid, for which most homeless children qualify.

# Plan and Management

## EDUCATION, SELF- MANAGEMENT

- **Common occurrence** Explain to parent that otitis media is very common and may recur often, to prevent loss of confidence in medical providers. Main message is that treatment must *not* be delayed.
- **Signs & symptoms** Educate parent about signs and symptoms of otitis media. Pulling or rubbing ear, fluid coming from ear, hearing/balance problems, and fever are indications of immediate need to see a medical provider (but ear touching alone does not necessarily mean an ear infection).
- **Breast feeding, bottle propping** Educate parent about advantages of breast feeding (if no contraindications) and risks of bottle propping in preventing otitis media. Provide lactation guide at shelters, drop-in centers, and meal sites used by homeless families. Refer to Women, Infants, and Children (WIC) program, if available in community.
- **Prevention** Explain what parent can do to reduce child's susceptibility to future infections: smoke-free environment, smoking cessation program for parent, frequent hand washing to prevent spread of viral infections in shelter, etc. Some clinicians recommend a harm reduction approach to parental smoking. For example, suggest that parent smoke outdoors, wear a poncho while smoking, and remove it before holding child to reduce child's exposure to second-hand smoke.
- **Risks of delayed/ interrupted treatment** Explain risks to hearing, speech, emotional development, and school performance from chronic, untreated ear infections.
- **Antibiotics** Emphasize that all antibiotics prescribed must be completed. (Don't stop when symptoms cease or use for next infection.) Urge parent to use standard measurements for antibiotics (not just "a swig"). Provide measuring device. Educate parent about possible side effects of antibiotics, especially diarrhea.
- **After hours** Tell parent what to do and number to call if problems arise outside clinic hours.

## MEDICATIONS

- **Antibiotics** should be used in cases of acute otitis media only. Although there is some evidence that antibiotics can be deferred while awaiting spontaneous resolution of infection, this approach is not appropriate in homeless populations, as close follow-up is not assured. Antibiotics should not be used for chronic sterile effusion, but hearing evaluation is important and an ENT referral may be necessary.

- **Simpler regimen** In general, shorter courses of antibiotics given once daily (such as five-day course of azithromycin) are preferred over more complicated regimens. Consideration should be given to intramuscular routes, such as single dose of ceftriaxone, in which medication delivery is assured. Medications that require refrigeration should be avoided if client does not have access to refrigeration. For a child over five years of age, consider use of capsules as an alternative to liquid preparations, which often require measuring and refrigeration. Capsules are relatively easy to swallow, even for a young child, or can be opened and sprinkled in food, if necessary.
- **Prescriptions** Find out if patient has health insurance coverage; if not, refer to social worker or case manager for assistance in applying for Medicaid or the State Children's Health Insurance Program (SCHIP), which cover prescription drugs recommended to treat otitis media. Most homeless children are eligible for Medicaid or SCHIP. If patient is uninsured or if copayments required by patient's health plan present a financial barrier to treatment, consider giving patient medication samples on site, if available, recognizing possible difficulty in obtaining continued medication. Investigate other options for reduced-cost drugs — e.g., pharmaceutical companies' Patient Assistance Programs for low-income individuals and/or US Department of Health and Human Services' 340B Pharmaceutical Discount program, if eligible (<http://bhpc.hrsa.gov/opa/>).

Assist family in getting prescriptions filled, especially if required to use an approved pharmacy within a managed care network. Know what medications are on your state's Medicaid/SCHIP drug formularies and which ones require pre-authorization by a managed care plan. If possible, prescribe medications that do not require prior authorization, which delays treatment and may discourage homeless families from getting prescriptions filled.

- **GI upsets** Prescribe medications with minimal GI side effects. Diarrhea is more difficult for homeless families to manage because of limited access to diapers and facilities for cleansing child. Maintaining adequate hydration can also be a problem if fluids are not readily available.
- **Pain medication** Provide treatment for pain. Clinicians often under-treat pain associated with acute otitis media. Homeless families may delay pain management while moving from place to place. A crying child in pain increases the stress experienced by homeless families.
- **Aids to adherence** Give parent a cross-off chart to keep track of medication administered to child. Use medication boxes for pills. Make sure parent can read prescription labels and all written instructions/educational materials.

## ASSOCIATED PROBLEMS/COMPLICATIONS

- **Congregate living** in shelters or doubled up with other families increases homeless children's risk of exposure to viral infection, which may increase the incidence of otitis media.
- **Parental smoking** High prevalence of tobacco smoking among homeless people increases risk of otitis media in their children. Refer parent to smoking cessation program; counsel to explore readiness to change. Consider child's exposure to other smoke from marijuana, crack cocaine, etc.
- **Hearing problems** Multiple/chronic ear infections can result in hearing loss that may affect child's attachment to parent, emotional and social development, and how parent interacts with child.
- **Speech delays** Homeless children have more problems with speech delays unrelated to otitis media than poor housed children. These problems are exacerbated by ear infections. Many homeless children have delayed social and verbal skills, which make it difficult to assess for speech delays.
- **Lack of transportation** Homeless families often have difficulty obtaining transportation to specialty appointments. Help client with transportation to needed health services.
- **Financial barriers** Lack of health insurance or required copayments for pharmaceuticals may make it difficult for homeless families to obtain prescribed medications. Help family obtain all entitlements for which child is eligible (including Medicaid/SCHIP) and/or reduced-cost drugs available through public or private patient assistance programs.
- **Poor adherence** Assess parent's ability to understand directions and follow through with treatment. Help parent seek assistance, if needed (e.g., substance abuse counseling, help from childcare center's staff). Use nonjudgmental language. Acknowledge how complicated homeless peoples' lives are, and the fact that there are conflicting priorities. Be sure parent understands importance of this treatment for the child. Explain things to patient/parent on a level they can understand. Articulate expectations that are realistic but high.
- **Familial stress** A child with acute or chronic illness presents another source of stress for a family already dealing with the highly stressful experience of homelessness. Help to alleviate stress by facilitating access to stable housing, supportive services, and other resources (e.g., through child-care centers and schools).

## **FOLLOW-UP**

- **Frequency** Re-check child in 5–7 days after initial treatment is initiated to ensure that an acute infection is resolving (fluid may take months to go away). If infection has not improved, a change in medical therapy may be necessary. Patients who have purulent drainage from ear (otorrhea) should be seen by an ENT doctor if drainage persists for more than a week or two. Children with sterile middle ear fluid should be followed up in about 2-3 months and referred to an ENT doctor if fluid persists.
- **Primary care provider (PCP)** Share information with patient's PCP (if any); refer immediately; facilitate transportation. Make sure provider understands family's living situation and special needs.
- **Specialists** More aggressive referrals are needed for homeless children, who require access to professionals in multiple clinical disciplines. Access to specialists is limited in many places, especially rural areas. Work toward establishing relationships with specialists in your community. Develop referral relationships with specialists willing to accept Medicaid patients or provide *pro bono* care for children who do not qualify for public health insurance. (Recognize that most homeless children are eligible for Medicaid or SCHIP.)
- **Referral to audiologist/speech pathologist** Primary care providers should have a low threshold for referral of homeless children for hearing and speech screening. Homeless people have special problems with delayed treatment when continuity of care is lacking. If referral is delayed, there may not be another opportunity for assessment and intervention to arrest damaging results of otitis media. Any hearing loss, balance problem, speech delay, or sleep disorder with effusion or chronic ear infection should trigger referral to an audiologist and/or a speech pathologist. If speech/hearing loss milestones are unclear, refer. Educate clinicians to whom you refer patients about family's living conditions.
- **Myringotomy/tympanostomy** Consider referral if chronic otitis media is suspected. Typical thresholds for surgery are fluid with hearing loss for three months, or 5–6 episodes of otitis media in a six-month period. However, early referral may be necessary, since it may be difficult to document these criteria in homeless children.
- **Case management** Whenever possible, involve a social worker or case manager to facilitate return visits. Give appointment slips to parent/family member, social worker, and shelter staff.
- **Outreach** Coordinate medical care with an outreach worker.

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Wick Roberts JE et al. (Eds.). *Otitis Media in Young Children: Medical, Developmental, and Educational Perspectives*. City, State: Paul H. Brookes Publishing Co., 1997, ISBN 1-55766-278-9.

## SUGGESTED RESOURCES

Kraybill K. *Outreach to People Experiencing Homelessness: A Curriculum for Training Health Care for the Homeless Outreach Workers*. National Health Care for the Homeless Council, June 2002: [www.nhchc.org/publications](http://www.nhchc.org/publications).

McMurray-Avila M. *Organizing Health Services for Homeless People*. ISBN: 0971165092; 2nd Edition. Nashville: National Health Care for the Homeless Council, Inc., 2001.

National Health Care for the Homeless Council. *Health Care for the Homeless: An Introduction*. 22 minute video and user's guide, June 2001. To order: [www.nhchc.org/Publications/](http://www.nhchc.org/Publications/).

National Health Care for the Homeless Council. *Health Care for the Homeless: Outreach*. 21 minute video, June 2001. To order: [www.nhchc.org/Publications/](http://www.nhchc.org/Publications/).

Zerger, S. *Chronic Medical Illness and Homeless Individuals: A Preliminary Review of Literature*. National Health Care for the Homeless Council, April 2002: [www.nhchc.org/Publications/literaturereview\\_chronicillness.pdf](http://www.nhchc.org/Publications/literaturereview_chronicillness.pdf).

## WEBSITES

American Academy of Pediatrics	<a href="http://www.aap.org">www.aap.org</a>
American Academy of Family Physicians	<a href="http://www.aafp.org">www.aafp.org</a>
Health Disparities Collaboratives	<a href="http://www.healthdisparities.net">www.healthdisparities.net</a>
National Guideline Clearinghouse	<a href="http://www.guideline.gov">www.guideline.gov</a>
National Health Care for the Homeless Council & Health Care for the Homeless Clinicians' Network	<a href="http://www.nhchc.org">www.nhchc.org</a>

### **ABOUT THE HCH CLINICIANS' NETWORK**

Founded in 1994, the Health Care for the Homeless Clinicians' Network is a national membership association that unites care providers from many disciplines who are committed to improving the health and quality of life of homeless people. The Network is engaged in a broad range of activities including publications, training, research and peer support. The Network is operated by the National Health Care for the Homeless Council, and our efforts are supported by the Health Resources and Services Administration, the Substance Abuse and Mental Health Services Administration, and member dues. The Network is governed by a Steering Committee representing diverse community and professional interests.

To become a member or order Network materials, call 615 226-2292 or write [network@nhchc.org](mailto:network@nhchc.org). Please visit our Web site at [www.nhchc.org](http://www.nhchc.org).