CAREFUL ANTIBIOTIC USE

Make promoting appropriate antibiotic use part of your routine clinical practice

PRACTICE TIPS

When parents ask for antibiotics to treat viral infections:

■ **Explain that unnecessary antibiotics can be harmful.**

Tell parents that based on the latest evidence, unnecessary antibiotics CAN be harmful, by promoting resistant organisms in their child and the community.

■ **Share the facts.**

Explain that bacterial infections can be cured by antibiotics, but viral infections never are.

Explain that treating viral infections with antibiotics to prevent bacterial infections does not work.

■ **Build cooperation and trust.**

Convey a sense of partnership and don’t dismiss the illness as “only a viral infection”.

■ **Encourage active management of the illness.**

Explicitly plan treatment of symptoms with parents. Describe the expected normal time course of the illness and tell parents to come back if the symptoms persist or worsen.

■ **Be confident with the recommendation to use alternative treatments.**

Prescribe analgesics and decongestants, if appropriate.

Emphasize the importance of adequate nutrition and hydration.

Consider providing “care packages” with non-antibiotic therapies.

Create an office environment to promote the reduction in antibiotic use.

■ **Talk about antibiotic use at 4 and 12 month well child visits.**

The AAP Guidelines for Health Supervision III (1997) now include counseling on antibiotic use as an integral part of well-child care.

■ **Start the educational process in the waiting room.**

Videotapes, posters, and other materials are available. (www.cdc.gov/ncidod/dbmd/antibioticresistance)

■ **Involve office personnel in the educational process.**

Reenforcement of provider messages by office staff can be a powerful adjunct to change patient attitudes.

■ **Use the CDC/AAP pamphlets and principles to support your treatment decisions.**

Provide information to help parents understand when the risks of using antibiotics outweigh the benefits.
When parents request antibiotics for rhinitis or the “common cold”... Give them an explanation, not a prescription.

RHINITIS VERSUS SINUSITIS IN CHILDREN

Remember:

Children have 2-9 viral respiratory illnesses per year.2

In uncomplicated colds, cough and nasal discharge may persist for 14 days or more – longer after other symptoms have resolved

Duration of symptoms in 139 rhinovirus colds3

Controlled studies do not support antibiotic treatment of mucopurulent rhinitis.4

Antibiotics do not effectively treat URI, or prevent subsequent bacterial infections.5

Don’t overdiagnose sinusitis

Though most viral URIs involve the paranasal sinuses, only a small minority are complicated by bacterial sinusitis.

Avoid unnecessary treatment by using strict criteria for diagnosis:5

Symptoms of rhinorrhea or persistent daytime cough lasting more than 10 - 14 days without improvement.

Or

Severe symptoms of acute sinus infection:
- fever (> 39 C) with purulent nasal discharge
- facial pain or tenderness
- periocular swelling

Treating sinusitis:

- Target likely organisms with first-line drugs:
  Amoxicillin, Amoxicillin/Clavulanate6

- Use shortest effective course:
  Should see improvement in 2-3 days. Continue treatment for 7 days after symptoms improve or resolve (usually a 10 - 14 day course).7

- Consider imaging studies in recurrent or unclear cases:
  But remember that some sinus involvement is frequent early in the course of uncomplicated viral URI - so interpret studies with caution.

Share the CDC/AAP principles and pamphlets with parents to help them understand when antibiotic treatment risks outweigh the benefits.

- rhinorrhea, fever, and cough are symptoms of viral URI
- changes in mucous to yellow, thick, or green are the natural course of viral URI, NOT an indication for antibiotics.8
- treating viral URI will not shorten the course of illness or prevent bacterial infection.5

References
CAREFUL ANTIBIOTIC USE

Otitis media with effusion does not require antibiotic treatment
Acute otitis media does not always require antibiotic treatment

OTITIS MEDIA
Differentiating Acute Otitis Media (AOM) from Otitis Media with Effusion (OME):
A tool for promoting appropriate antibiotic use.1, 2

Always use pneumatic otoscopy or tympanometry to confirm middle ear effusion

No effusion
Not OME or AOM

Yes effusion present

Signs or symptoms of AOM-including ear pain, fever, and bulging yellow or red TM

Yes
No

AOM
• History of acute onset of signs and symptoms WITH
• The presence of middle ear effusion (indicated by bulging of the TM or limited/absent TM mobility or otorrhea or air-fluid level) WITH
• Signs or symptoms of middle-ear inflammation (indicated by distinct erythema of the TM or distinct otalgia)

TREATMENT
Management should include assessment of pain → if pain is present, clinician should recommend treatment to reduce pain.

Age Certain Diagnosis Uncertain Diagnosis
< 6 mo Antibacterial therapy Antibacterial therapy
6 mo to 2 y Antibacterial therapy Antibacterial therapy if severe illness; observation option* if nonsevere illness
≥ 2 y Antibacterial therapy if severe illness; observation option* if nonsevere illness Observation option*

*Observation is an appropriate option only when follow-up can be ensured and antibacterial agents started if symptoms persist or worsen. Nonsevere illness is mild otalgia and fever <39°C in the past 24 hours. Severe illness is moderate to severe otalgia or fever ≥ 39°C. A certain diagnosis of AOM meets all 3 criteria: 1) rapid onset, 2) signs of middle ear effusion, and 3) signs and symptoms of middle-ear inflammation.

OME
Presence of effusion (including immobility of the tympanic membrane) WITHOUT

Signs or symptoms of acute infection. Nonspecific signs and symptoms (rhinitis, cough, diarrhea) are often present.

TREATMENT
Antibiotic treatment has not been demonstrated to be effective in long-term resolution of OME. A single course of treatment for 10-14 days may be used when a parent or caregiver expresses a strong aversion to impending surgery.3

References:

If the patient fails to respond to the initial management option within 48-72 hours, clinician must reassess to confirm AOM and exclude other causes of illness. If AOM is confirmed in:
- Patient initially managed with observation, begin antibacterial therapy.
- Patient initially managed with antibacterial agent, change the agent.

Avoiding unnecessary treatment of OME would save up to 6-8 million courses of antibiotics each year.3
Most sore throats are caused by viral agents.²

Clinical findings alone do not adequately distinguish Strep vs. Non-Strep pharyngitis.³

BUT, prominent rhinorrhea, cough, hoarseness, conjunctivitis, or diarrhea suggest a VIRAL etiology.⁴

Antigen tests (rapid Strep kits) or culture should be positive before beginning antibiotic treatment.

Experts suggest confirming negative results on antigen tests with culture.⁵

PHARYNGITIS IN CHILDREN¹

Experts discourage treatment pending culture results⁵-⁶, but if you do...

- Make sure to stop antibiotics when culture is negative.
- Discourage parents from saving antibiotics.

If an antibiotic is prescribed:

- Use a penicillin as treatment for group A strep.⁷

NO group A strep are resistant to penicillin. Treatment is 90% effective at elimination of strep, and may be higher in the prevention of acute rheumatic fever (ARF). Carriers are at very low risk for both ARF and spreading infection.⁷

- Use erythromycin if penicillin allergic.

References
Cough illness in the well-appearing child: Antibiotics are NOT the answer.

COUGH ILLNESS/BRONCHITIS

- When parents demand antibiotics...
  - Acknowledge the child’s symptoms and discomfort.
  - Promote active management with non-pharmacologic treatments.
  - Give realistic time course for resolution.
  - Share the CDC/AAP principles and pamphlets with parents to help them understand when the risks of antibiotic treatment outweigh the benefits.

Do not use antibiotics for:

- Cough <10-14 days in well-appearing child without physical signs of pneumonia.

Consider antibiotics only for:

- Suspected pneumonia, based on fever with focal exam, infiltrate on chest x-ray, tachypnea, or toxic appearance.

- Prolonged cough (>10-14 days without improvement) may suggest specific illnesses (e.g. sinusitis) that warrant antibiotic treatment.

- Treatment with a macrolide (erythromycin) may be warranted in the child older than 5 years when mycoplasma or pertussis is suspected.

References