

Pediatric Outpatient Antimicrobial Stewardship Toolkit



Sharing Antimicrobial Reports for Pediatric Stewardship

Table of Contents

Click the title to go directly to the section within this document

[Introduction](#)

[Patient/Parent Dialogue](#)

[Patient Handouts](#)

[Tri-Fold Brochure](#)

[Viruses or Bacteria](#)

[Delayed Prescribing](#)

[Watchful Waiting](#)

[Provider Resources](#)

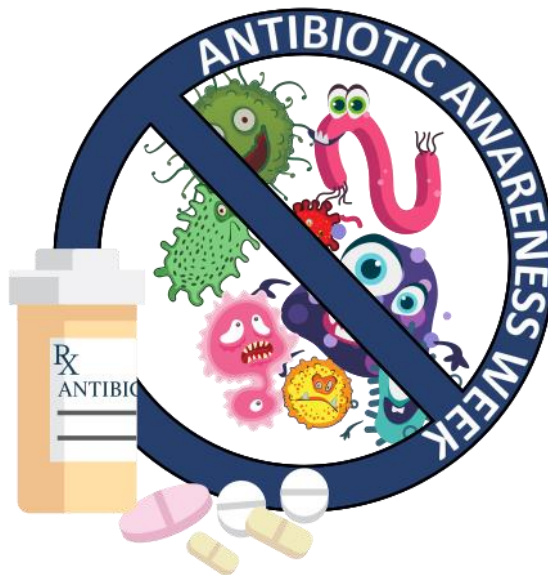
[Commitment Poster](#)

[Pediatric Treatment Recommendations](#)

[Fun for Kids](#)

[Oregon Antibiotic Resistance Activity Kit](#)

[References](#)



Introduction

Antimicrobial resistance is a growing healthcare concern that requires immediate attention and action. One of the main reasons for antibiotic resistance is the inappropriate prescribing of antibiotics. Antibiotic stewardship efforts can improve patient safety and slow the spread of antibiotic resistance. The majority of antibiotic use occurs in outpatient healthcare settings and some of the highest rates of prescribing occurs in children, making this an important population for targeting antimicrobial stewardship efforts.¹

Some barriers to outpatient antimicrobial stewardship include knowledge gaps, patient expectations, and time constraints. We hope this toolkit will assist you in your efforts to promote judicious use of antibiotics in the outpatient setting.

Patient/Parent Dialogue

Click the picture for a printable document

Patient/Parent Dialogue

A practical guide on the combined use of positive and negative treatment recommendations to reduce antibiotic prescribing and improve patient visit ratings

In 2015 Dr. Rita Mangione-Smith and colleagues performed a cross-sectional study of 1,285 pediatric visits for acute respiratory tract infection (ARTI) symptoms. Providers and parents completed post-visit surveys and multivariate analyses identified key predictors of prescribing antibiotics and of parent visit ratings. Suggesting actions parents could take to reduce their child's symptoms (providing positive treatment recommendations) was associated with decreased risk of antibiotic prescribing whether done alone or in combination with negative treatment recommendations (ruling out the need for antibiotics) [adjusted risk ratio (aRR) 0.48; 95% CI, 0.24-0.95; and aRR 0.15; 95% CI, 0.06-0.40, respectively]. Parents receiving combined positive and negative treatment recommendations were more likely to give the highest possible visit rating (aRR 1.16; 95% CI, 1.01-1.34).

Combined use of positive and negative treatment recommendations may reduce the risk of antibiotic prescribing for children with viral ARTIs and at the same time improve visit ratings.

Ann Fam Med 2015;13:221-227.

THE TREATMENT RECOMMENDATION IS ONE PACKAGE COMPRISING 4 KEY PARTS:

MAKE THE CASE
FOR THE
DIAGNOSIS

DELIVER THE
NEGATIVE
RECOMMENDATION

FOLLOW
IMMEDIATELY
WITH THE
POSITIVE
RECOMMENDATION

PROVIDE A
CONTINGENCY
PLAN

Patient/Parent Dialogue

A practical guide on the combined use of positive and negative treatment recommendations to reduce antibiotic prescribing and improve patient visit ratings

EXAMPLE DIALOGUE:

DIAGNOSIS

So it looks like he has a yucky cold.

NEGATIVE
REC

On the one hand, there's no medicine that will make it go away. Having yellow-green mucous doesn't mean he has a bacterial infection, so antibiotics won't help.

POSITIVE
REC

On the other hand, there are many things you can do to make him feel better. First thing is lots of rest and lots of fluids. Raising his head at night can help drain his congestion, so you might give him an extra pillow. You can also run a humidifier in his bedroom at night, which can help loosen his congestion. And a teaspoon of honey can help with his cough.

CONTINGENCY
PLAN

If he isn't feeling better or he is getting worse in the next 2 days, please call our office to let us know.

Use of the "On the one hand...On the other hand" structure foreshadows that more information is coming and prevents interruption.

Patient Handouts

The [CDC website](#)³ has numerous resources to promote appropriate antibiotic prescribing, including handouts for helping children and their parents understand appropriate antibiotic use. Below are some examples. Click the picture for a printable document.

Antibiotics Aren't Always the Answer

Why does taking antibiotics lead to antibiotic resistance?

Any time antibiotics are used, they can cause side effects and lead to antibiotic resistance. Antibiotic resistance is one of the most urgent threats to the public's health. Always remember:

1. Antibiotic resistance does not mean the body is becoming resistant to antibiotics; it is that bacteria have become resistant to the antibiotics designed to kill them.
2. When bacteria become resistant, antibiotics cannot fight them, and the bacteria multiply.
3. Some resistant bacteria can be harder to treat and can spread to other people.


What is the right way to take antibiotics?

If you need antibiotics, take them exactly as prescribed.

Improving the way healthcare professionals prescribe antibiotics, and the way we take antibiotics, helps keep us healthy now, helps fight antibiotic resistance, and ensures that these life-saving drugs will be available for future generations.

Talk with your doctor if you have any questions about your antibiotics, or if you develop any side effects, especially diarrhea, since that could be *Clostridium difficile* infection (also called *C. difficile* or *C. diff*), which needs to be treated. *C. diff* can lead to severe colon damage and death.

Antibiotics Aren't Always the Answer.





Common side effects range from minor to very severe health problems and can include:

- Rash
- Dizziness
- Nausea
- Diarrhea
- Yeast infections


More serious side effects can include:

- *Clostridium difficile* infection
- Severe and life-threatening allergic reactions.

To learn more about antibiotic prescribing and use, visit www.cdc.gov/antibiotic-use.



Each year in the United States, at least 2 million people get infected with antibiotic-resistant bacteria. At least 23,000 people die as a result.





Why is it important to Be Antibiotics Aware?

Antibiotics save lives. When a patient needs antibiotics, the benefits outweigh the risks of side effects or antibiotic resistance.

When antibiotics aren't needed, they won't help you, and the side effects could still hurt you. Reactions from antibiotics cause 1 out of 5 medication-related visits to the emergency department.

Why do antibiotics treat?

Antibiotics are only needed for treating certain infections caused by bacteria. Antibiotics are critical tools for treating common infections, such as pneumonia, and for life-threatening conditions including sepsis, the body's extreme response to an infection.

How can I stay healthy?

You can stay healthy and keep others healthy by:

- Cleaning hands
- Covering coughs
- Staying home when sick
- Getting recommended vaccines, for the flu, for example

Talk to your doctor or nurse about steps you can take to prevent infections.



What don't antibiotics treat?

Antibiotics do not work on viruses, such as colds and flu, or runny noses, even if the mucus is thick, yellow or green. Antibiotics also won't help some common bacterial infections including most cases of bronchitis, many sinus infections, and some ear infections.

In children, reactions from antibiotics are the most common cause of medication-related emergency department visits.

Patient Handouts

Viruses or Bacteria

Many patients and parents don't understand the difference between viral and bacterial infections. This easy-to-read chart could help them understand when antibiotics are and aren't needed.

Viruses or Bacteria

What's got you sick?


Antibiotics only treat bacterial infections. Viral illnesses cannot be treated with antibiotics. When an antibiotic is not prescribed, ask your healthcare professional for tips on how to relieve symptoms and feel better.

Common Condition: What's got you sick?	Common Cause			Are antibiotics needed?
	Bacteria	Bacteria or Virus	Virus	
Strep throat	✓			Yes
Whooping cough	✓			Yes
Urinary tract infection	✓			Yes
Sinus infection		✓		Maybe
Middle ear infection		✓		Maybe
Bronchitis/chest cold (in otherwise healthy children and adults)*		✓		No
Common cold/runny nose			✓	No
Sore throat (except strep)			✓	No
Flu			✓	No

* In some cases, acute bronchitis is caused by bacteria, but even in these cases antibiotics still do not help.

Antibiotics Aren't Always the Answer

www.cdc.gov/antibiotic-use



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

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Patient Handouts

Delayed Prescribing

Delayed prescribing is when providers ask patients to fill a prescription only if symptoms persist or worsen. Randomized controlled trials have shown this practice to be associated with decreased use of antimicrobials.⁴

What is Delayed Prescribing?

WAIT. Do not fill your prescription just yet. Your healthcare professional believes your illness may resolve on its own.

First, follow your healthcare professional's recommendations to help you feel better without antibiotics and continue to monitor your symptoms over the next few days.

- Rest
- Drink extra water and fluids
- Use a cool mist vaporizer or saline nasal spray to relieve congestion
- Try ice chips or sore throat spray to relieve a sore throat- older children and adults can also use lozenges. Do not give lozenges to young children.

If you **do not feel better in—days/hours, or get worse**, go ahead and fill your prescription.

If you **feel better, you do not need the antibiotic**, and do not have to risk the side effects. Discard your antibiotic prescription.

Waiting to see if you really need an antibiotic can help you take antibiotics only when it is actually necessary. Antibiotics can cause side effects like skin rash, diarrhea, a yeast infection, or worse. They can also make future bacterial infections stronger and harder to treat.

Protect yourself and others. Learn when antibiotics are and aren't needed.



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Control and Prevention

For more information visit
www.cdc.gov/antibiotic-use

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Patient Handouts

Watchful Waiting

Clinical guidelines and randomized trials support the practice of watchful waiting for children with acute otitis media.^{5,6} The handout below could help your patient and their family understand why they don't need an antibiotic.

What is Watchful Waiting?

Good news! Your healthcare professional believes your illness will likely resolve on its own.

You should watch and wait for ___ **days/hours** before your healthcare professional will know whether you need an antibiotic.

In the meantime, follow your healthcare professional's recommendations to help you feel better and continue to **monitor your symptoms** over the next few days.

- Rest
- Drink extra water and fluids
- Use a cool mist vaporizer or saline nasal spray to relieve congestion
- For sore throats in older children and adults, try ice chips, sore throat spray, or lozenges
- Use honey to relieve a cough. Do not give honey to an infant less than 1 year of age.


If you **feel better**, **no further action is necessary — you don't need antibiotics.**

If you **do not** feel better, experience **new symptoms**, or you have **other concerns**, call your healthcare professional to **discuss if you need a re-check or if you need antibiotics.**

It may not be convenient to visit your healthcare professional multiple times, but it is critical to make the right choice.

Antibiotics can cause side effects like a skin rash, diarrhea, a yeast infection, or worse. They can also make future bacterial infections stronger and harder to treat.

Protect yourself and others. Learn when antibiotics are and aren't needed.

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For more information visit www.cdc.gov/antibiotic-use

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Provider Resources

Commitment Poster

Healthcare providers are encouraged to display their commitment to antimicrobial stewardship with placement of posters throughout their practice site. Examination room posters, along with other patient and provider educational interventions, have been shown to reduce antibiotic use.⁷ Click the picture below for a link to this and other antibiotic stewardship commitment posters.



**A Commitment to Our Patients
about Antibiotics**

Antibiotics only fight infections caused by bacteria. Like all drugs, they can be harmful and should only be used when necessary. Taking antibiotics when you have a virus can do more harm than good: you will still feel sick and the antibiotic could give you a skin rash, diarrhea, a yeast infection, or worse.


Antibiotics also give bacteria a chance to become more resistant to them. This can make future infections harder to treat. It means that antibiotics might not work when you really do need them. Because of this, it is important that you only use an antibiotic when it is necessary to treat your illness.

How can you help? When you have a cough, sore throat, or other illness, tell your doctor you only want an antibiotic if it is really necessary. If you are not prescribed an antibiotic, ask what you can do to feel better and get relief from your symptoms.

*Your health is important to us. As your healthcare providers, we promise to provide the best possible treatment for your condition. If an antibiotic is not needed, we will explain this to you and will offer a treatment plan that will help. We are **dedicated** to prescribing antibiotics **only** when they are needed, and we will avoid giving you antibiotics when they might do more harm than good.*

If you have any questions, please feel free to ask us.

Sincerely,



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Health and Human Services
Centers for Disease
Control and Prevention




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Provider Resources

Pediatric Treatment Recommendations

The following are treatment recommendations for select pediatric infections. Click the picture for a direct link.

Pediatric Treatment Recommendations



Antibiotic prescribing guidelines establish standards of care, focus quality improvement efforts, and summarize the most recent principles of appropriate antibiotic prescribing for children obtaining common diagnoses: acute rhinosinusitis, acute otitis media, bronchiolitis, pharyngitis, common cold, and urinary tract infections.

Condition	Epidemiology	Diagnosis	Management
Acute sinusitis ^{1,2}	Sinusitis may be caused by viruses or bacteria, and antibiotics are not guaranteed to help even if the causative agent is bacterial.	Halitosis, fatigue, headache, decreased appetite, but most physical exam findings are non-specific and do not distinguish bacterial from viral causes. A bacterial diagnosis may be established based on the presence of one of the following criteria: <ul style="list-style-type: none"> Persistent symptoms without improvement: nasal discharge or daytime cough > 10 days. 	If a bacterial infection is established: <ul style="list-style-type: none"> Watchful waiting for up to 3 days may be offered for children with acute bacterial sinusitis with persistent symptoms. Antibiotic therapy should be prescribed for children with acute bacterial

ST. LOUIS CHILDREN'S HOSPITAL

PEDIATRIC EMPIRIC TREATMENT RECOMMENDATIONS FOR SELECT INFECTIONS

This document provides guidance on empiric treatment recommendations for select infections based upon current guidelines and local antibiogram data. Therapy should be modified based upon patient specific culture results once available.

<p>BONE AND JOINT Open fracture prophylaxis / lawnmower accident Osteomyelitis, acute Septic arthritis</p> <p>CENTRAL NERVOUS SYSTEM Brain abscess CSF shunt infections / open skull fracture Meningitis (CSF pleocytosis present), patient ≤ 28 days of age Meningitis (CSF pleocytosis present), patient > 28 days of age Meningoencephalitis, Herpes Simplex Virus</p> <p>GASTROINTESTINAL / ABDOMINAL Appendicitis, perforated Appendicitis, uncomplicated</p>	<p>RESPIRATORY TRACT / HEENT Aspiration pneumonia</p> <div style="border: 1px solid blue; padding: 10px; text-align: center;">  <p>HOSPITAL • ST. LOUIS</p>  </div>
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Fun for Kids

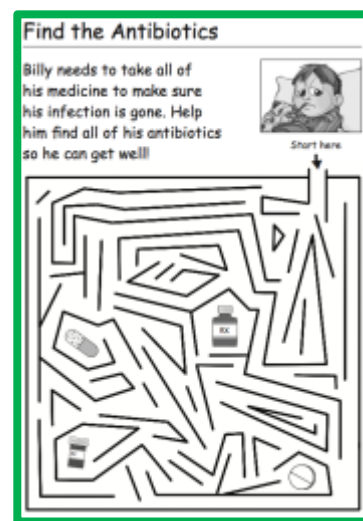
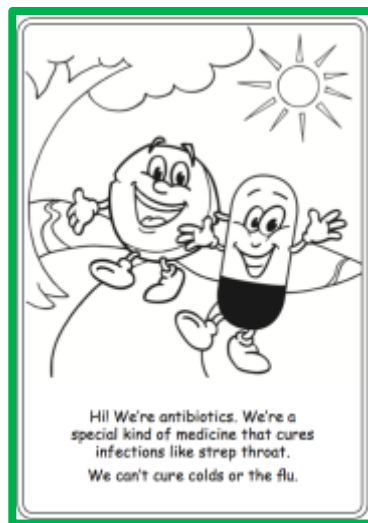
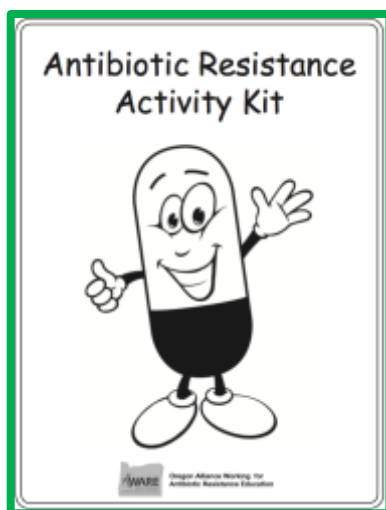
Click the pictures for printable files

Oregon Antibiotic Resistance Activity Kit



Oregon Alliance Working for Antibiotic Resistance Education (AWARE) works to reduce the problem of antibiotic-resistant bacteria in Oregon. AWARE encourages partners to use the educational materials provided here. These materials were developed by Oregon Health Authority and Oregon AWARE.

All material on this page may be reproduced as needed; however, literature content should not be altered without the permission of Oregon AWARE.



Check your [state stewardship website](#) for more information and resources.

References

Click the reference for a link to the full text article.

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