

Swallowing the New Guidelines for Strep Throat

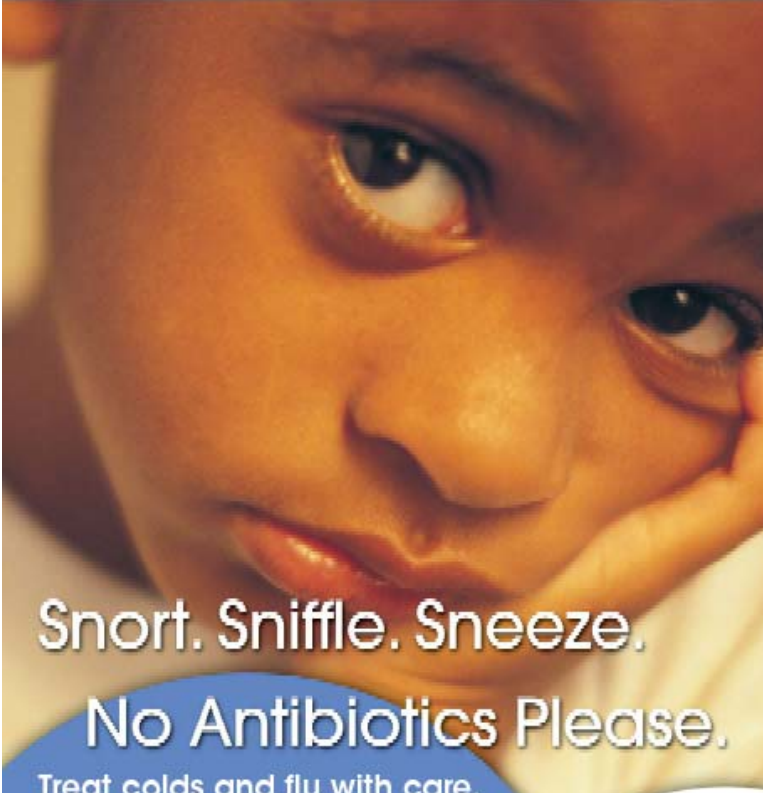
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**THE GEORGE
WASHINGTON
UNIVERSITY**

WASHINGTON, DC




It's Get Smart Week!



Snort. Sniffle. Sneeze.
No Antibiotics Please.

Treat colds and flu with care.
Talk to your healthcare provider.

As a parent, you want to help your child feel better. But antibiotics aren't always the answer. They don't fight the viruses that cause colds and flu. What will? Fluids and plenty of rest are best. Talk to your healthcare provider. Find out when antibiotics work—and when they don't. The best care is the right care.
For more information, please call 1-800-CDC-INFO or visit www.cdc.gov/getsmart.



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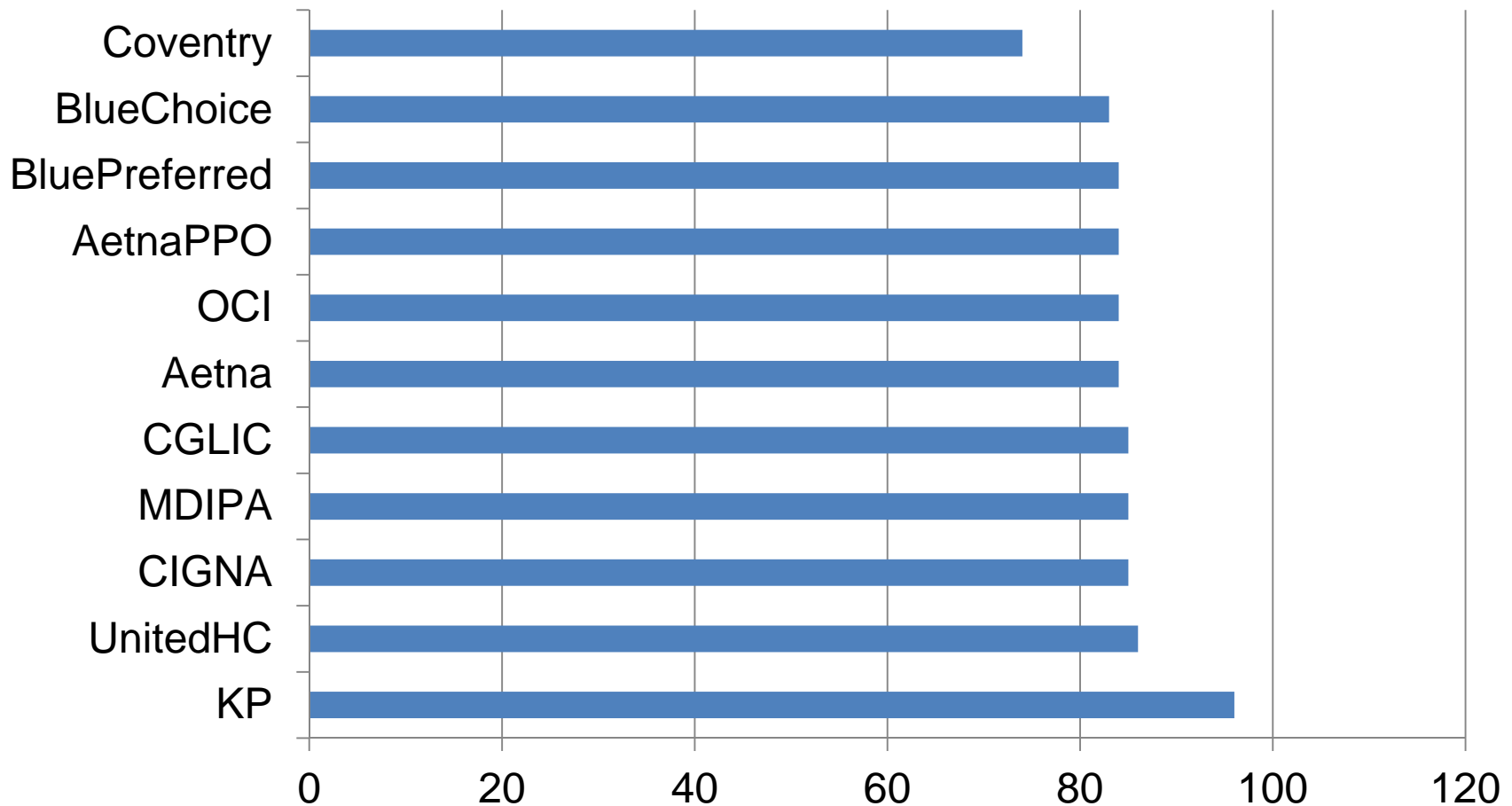
<http://www.cdc.gov/getsmart/>

Why Do We Care?

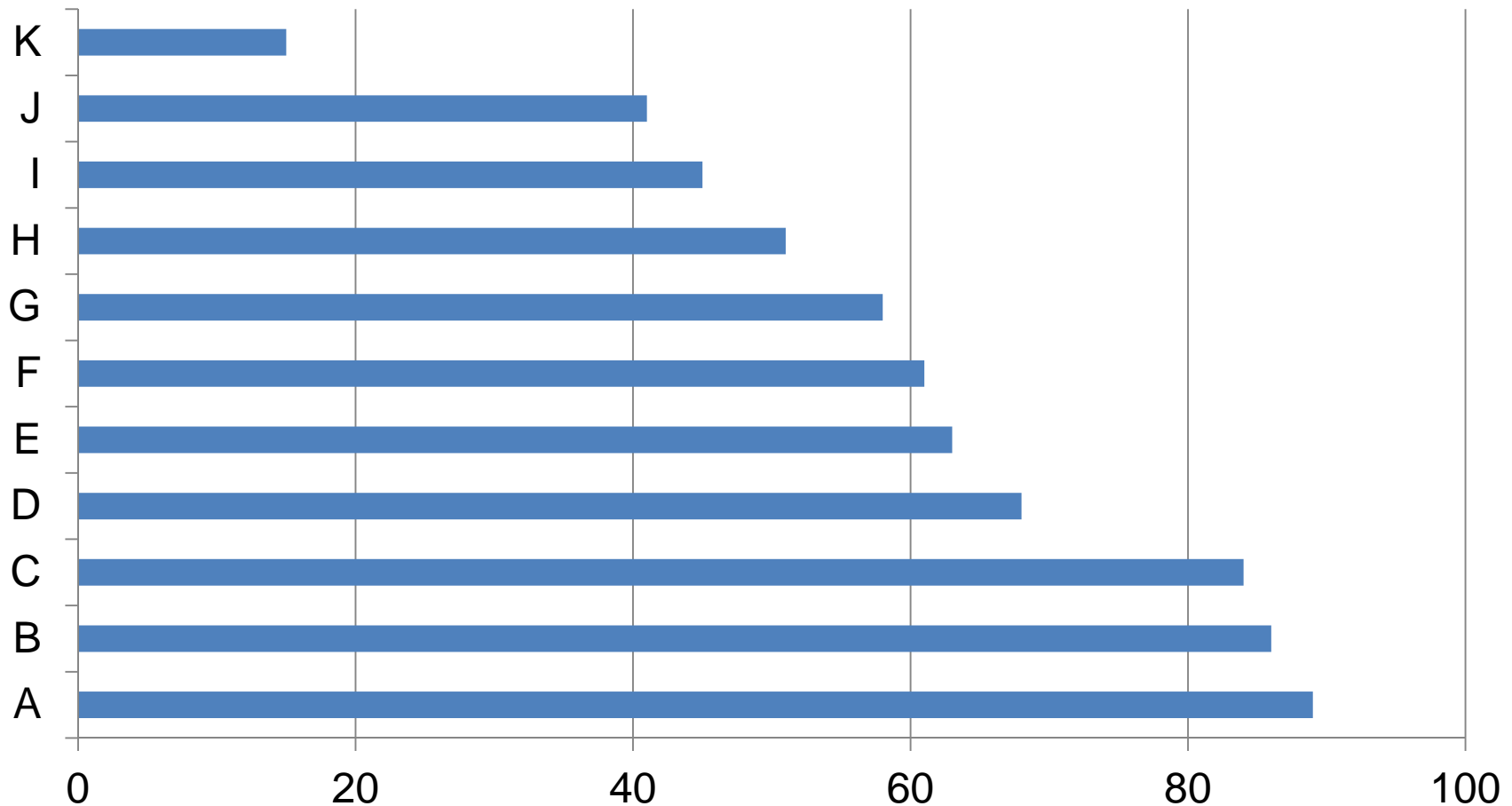
1. We want to do the right thing.
2. Big Brother (HEDIS) is watching!
 - a. Percentage of children diagnosed with pharyngitis, dispensed an antibiotic, and received GAS testing



Not Bad, We Can Do Better: Maryland 2011



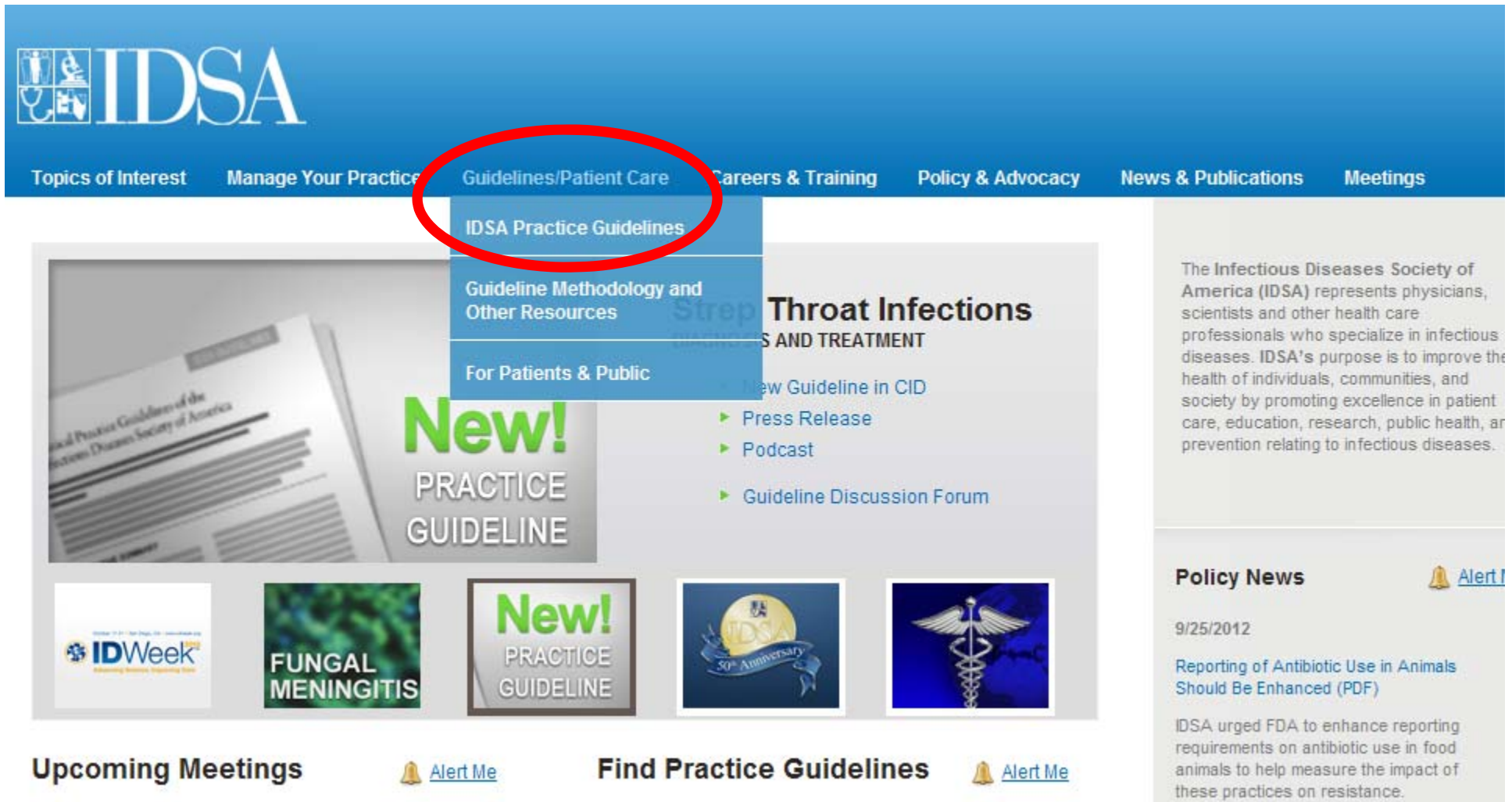
Not Bad, We Can Do Better: DC Chartered Health Plan



What Do You Want to Learn About Strep Throat?

- **Describe utility of clinical and laboratory evaluations.**
- **List benefits of treatment.**
- **List indications for tonsillectomy.**
- **Formulate management plan for suspected strep carriers.**

Guidelines: They Need Not Be Cookbooks



The screenshot shows the IDSA website with a blue header. The navigation bar includes links for Topics of Interest, Manage Your Practice, **Guidelines/Patient Care** (highlighted with a red circle), Careers & Training, Policy & Advocacy, News & Publications, and Meetings. A dropdown menu for 'Guidelines/Patient Care' is open, showing options: IDSA Practice Guidelines, Guideline Methodology and Other Resources, and For Patients & Public. The main content area features a 'New! PRACTICE GUIDELINE' banner for 'Streptococcal Throat Infections' with links to a new guideline in CID, a press release, a podcast, and a guideline discussion forum. Below this are five smaller banners: IDWeek, FUNGAL MENINGITIS, New! PRACTICE GUIDELINE, IDSA 50th Anniversary, and a caduceus symbol. The footer includes 'Upcoming Meetings' and 'Find Practice Guidelines', both with 'Alert Me' links. On the right, a 'Policy News' section dated 9/25/2012 discusses antibiotic use in animals.

Guidelines/Patient Care

- IDSA Practice Guidelines
- Guideline Methodology and Other Resources
- For Patients & Public

New! PRACTICE GUIDELINE

Streptococcal Throat Infections

- New Guideline in CID
- Press Release
- Podcast
- Guideline Discussion Forum

Policy News

9/25/2012

Reporting of Antibiotic Use in Animals Should Be Enhanced (PDF)

IDSA urged FDA to enhance reporting requirements on antibiotic use in food animals to help measure the impact of these practices on resistance.

Upcoming Meetings [Alert Me](#) **Find Practice Guidelines** [Alert Me](#)

www.idsociety.org

Strong Recommendations

Evidence Quality	Risk/Benefit	Implications
High	Benefits clearly outweigh risks (or vice versa)	Applies to most patients in most situations; further research unlikely to change practice
Moderate	Benefits clearly outweigh risks (or vice versa)	Applies to most patients in most situations; further research might change the estimate of effect
Low	Benefits clearly outweigh risks (or vice versa)	Might change if higher quality evidence becomes available
Very low (almost never used)	Benefits clearly outweigh risks (or vice versa)	Recommendation might change; very uncertain estimate of effect exists

Weak Recommendations

Evidence Quality	Risk/Benefit	Implications
High	Benefits closely balanced with risks	Best action varies with circumstances, patients, or societal values; further research unlikely to change this
Moderate	Benefits closely balanced with risks	Alternate approaches likely to be better in different settings; further research may change the estimate
Low	Uncertainty in estimates	Alternate approaches may be equally reasonable; further research likely to help
Very low	Major uncertainty in estimates	Alternate approaches may be equally reasonable; very uncertain estimate of effect exists

7 yo boy with fever and sore throat

It's Nov. 14, and your 1st patient has temperature to 103 F and sore throat for 2 days. He is quiet but looks well, with bilateral tender anterior cervical nodes. He has petechiae on his soft palate and exudative pharyngitis, but no rhinorrhea or hoarseness.

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Clinical Assessment Good, But Not Good Enough

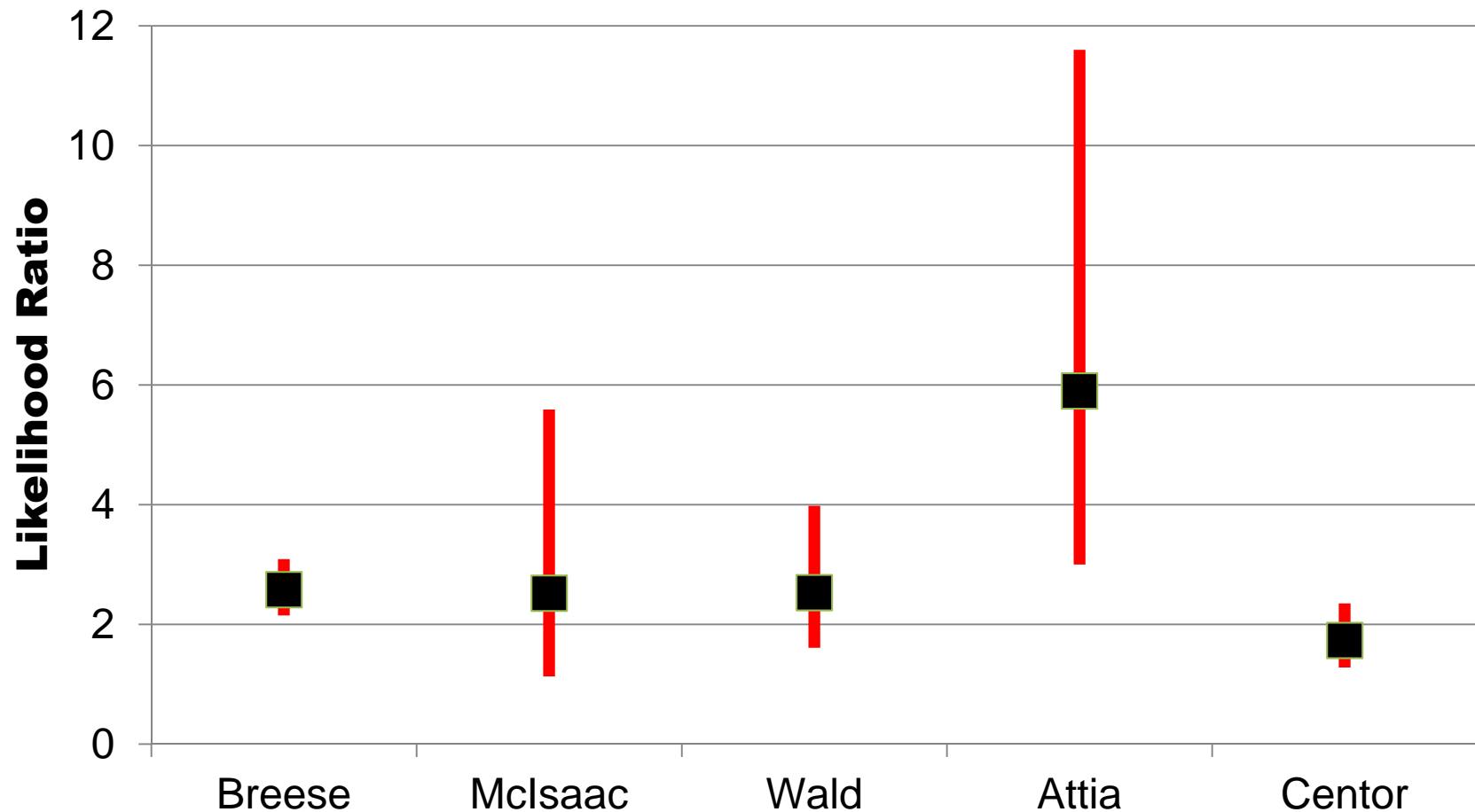
FOR GAS

- Sudden onset
- Age 5-15 y
- Fever
- Headache
- Nausea, vomiting, abdominal pain
- Tonsillopharyngeal inflammation/exudates
- Palatal petechiae
- Anterior cerv adenitis
- Winter/early spring
- Exposure to GAS pharyngitis
- Scarletiform rash

AGAINST GAS

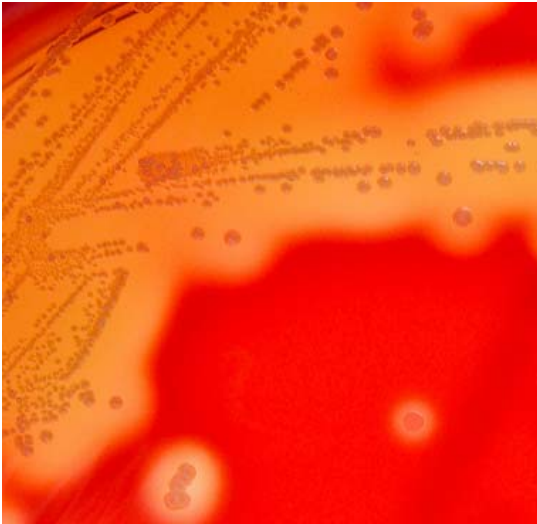
- Conjunctivitis
- Coryza
- Cough
- Diarrhea
- Hoarseness
- Discrete ulcerative stomatitis
- Viral exanthema

Scoring Systems Don't Work Well Enough



J Pediatr 2012; 160:487-93

Culture is a Poor Gold Standard



Culture is a Poor Gold Standard

- **Three-point specimen collection**
- **Aerobic vs anaerobic incubation**
- **24 vs 48 hour incubation**
- **Selective media**
- **Verifying group A**

20 month old girl with fever

Previously healthy, fever to 101.8 F for one day, runny nose for 2 days. Children in her day care center have been diagnosed with strep recently. Exam shows runny nose, normal pharynx, shotty cervical adenopathy.

Do you test?

Do you treat if positive?

Don't Test if GAS Unlikely

- **Features suggest viral etiology (strong, high)**
 - **Cough**
 - **Rhinorrhea**
 - **Hoarseness**
 - **Oral ulcers**
- **Children < 3 yo unless significant risk factors (strong, high)**

Young Children with GAS

“...during the first three years of life especially, but not exclusively, there are a large number of children who have fever, pharyngitis, nasal discharge, persisting cervical adenitis, catarrhal otitis media and anemia. They are querulous, miserable appearing and anorexic, but their reaction to the infection is not usually stormy. The patients are subacutely ill from four to six weeks and are not their ‘usual selves’ for a much longer time.”

Amer J Dis Child 1942; 64:516-34.

1940	Father 28 yrs.	Mother 24 yrs.	Joseph 3 yrs.	Jeanne 1 yr.
Nov. 18				F
20				
22		F T	N	G
24				NHH
26	F T B			+
28			+	
30		S+		
Dec. 2				Home
4				

Fig. 1.—Clinical history of the L. P. family. *F* indicates fever; *T*, sore throat; *B*, that the patient was confined to bed; *G*, cervical adenitis; *N*, purulent rhinitis; *S*, cutaneous infection; +, presence of hemolytic streptococci in a lesion; *NHH*, that the patient was in the New Haven Hospital.

Amer J Dis Child 1942; 64:505-15

Minimal Treatment Benefits

- **16 hours less of symptoms**
- **Prevent rheumatic fever (not glomerulonephritis)**
- **Prevent suppurative sequelae**

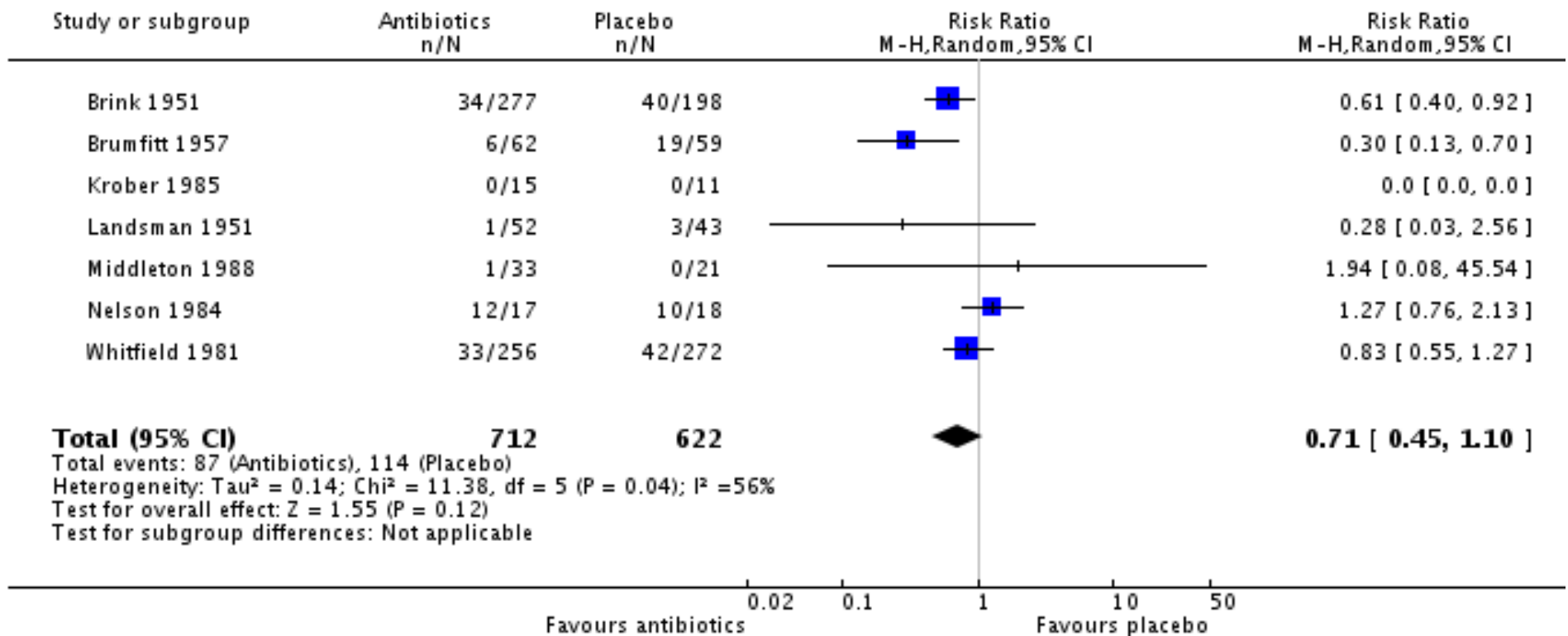
**Cochrane Database of Systematic Reviews 2006, Issue 4.
Art. No.: CD000023. DOI:
10.1002/14651858.CD000023.pub3.**

Treatment Almost Prevents Fever on Day 3

Review: Antibiotics for sore throat

Comparison: 3 Antibiotics versus control for the treatment of sore throat: symptom of fever

Outcome: 1 Symptom of fever on day 3

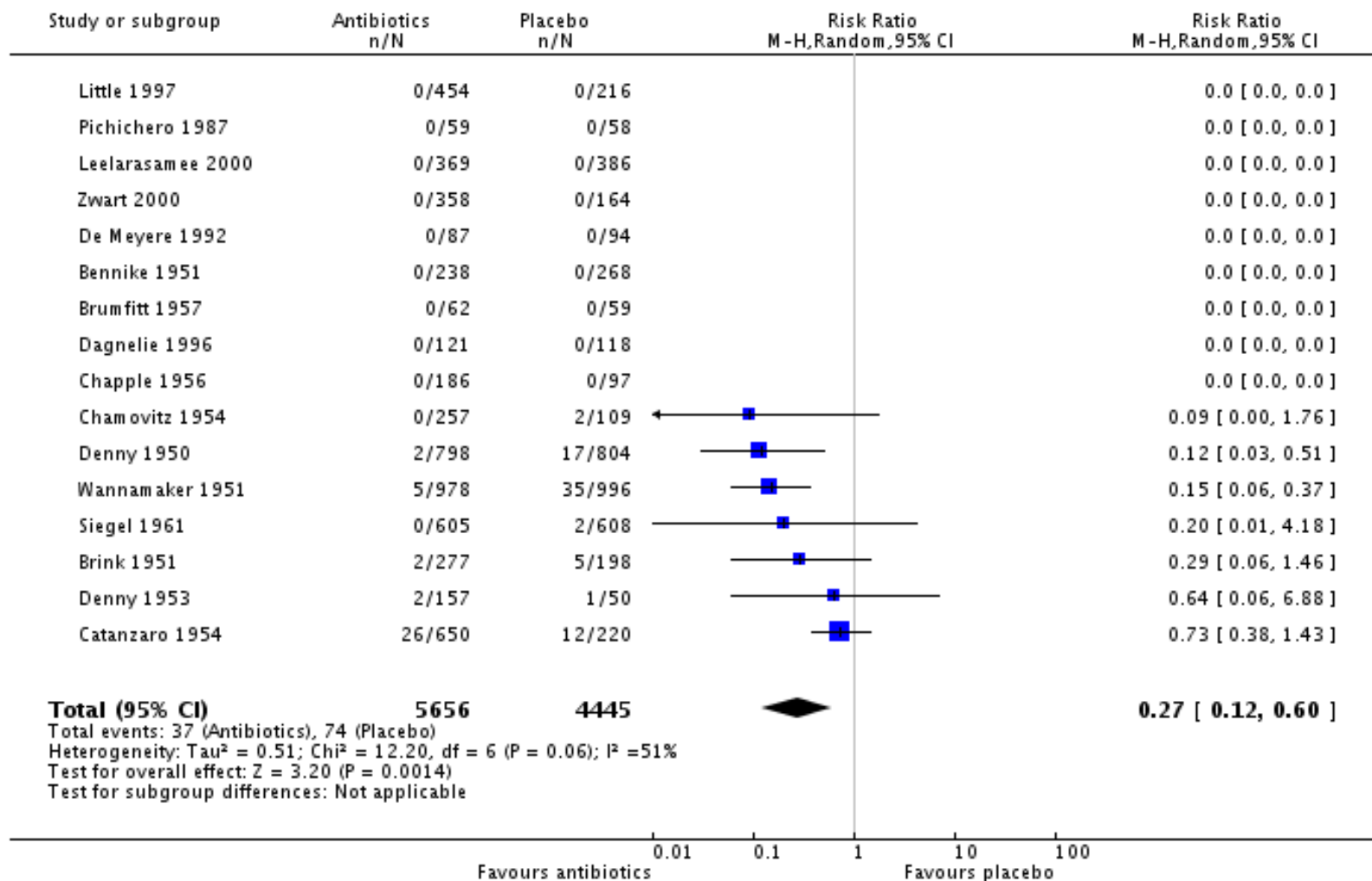


Treatment Prevents ARF

Review: Antibiotics for sore throat

Comparison: 1 Antibiotics versus placebo for the treatment of sore throat: incidence of complications

Outcome: 1 Incidence of acute rheumatic fever within 2 months. Rheumatic fever defined by clinical diagnosis

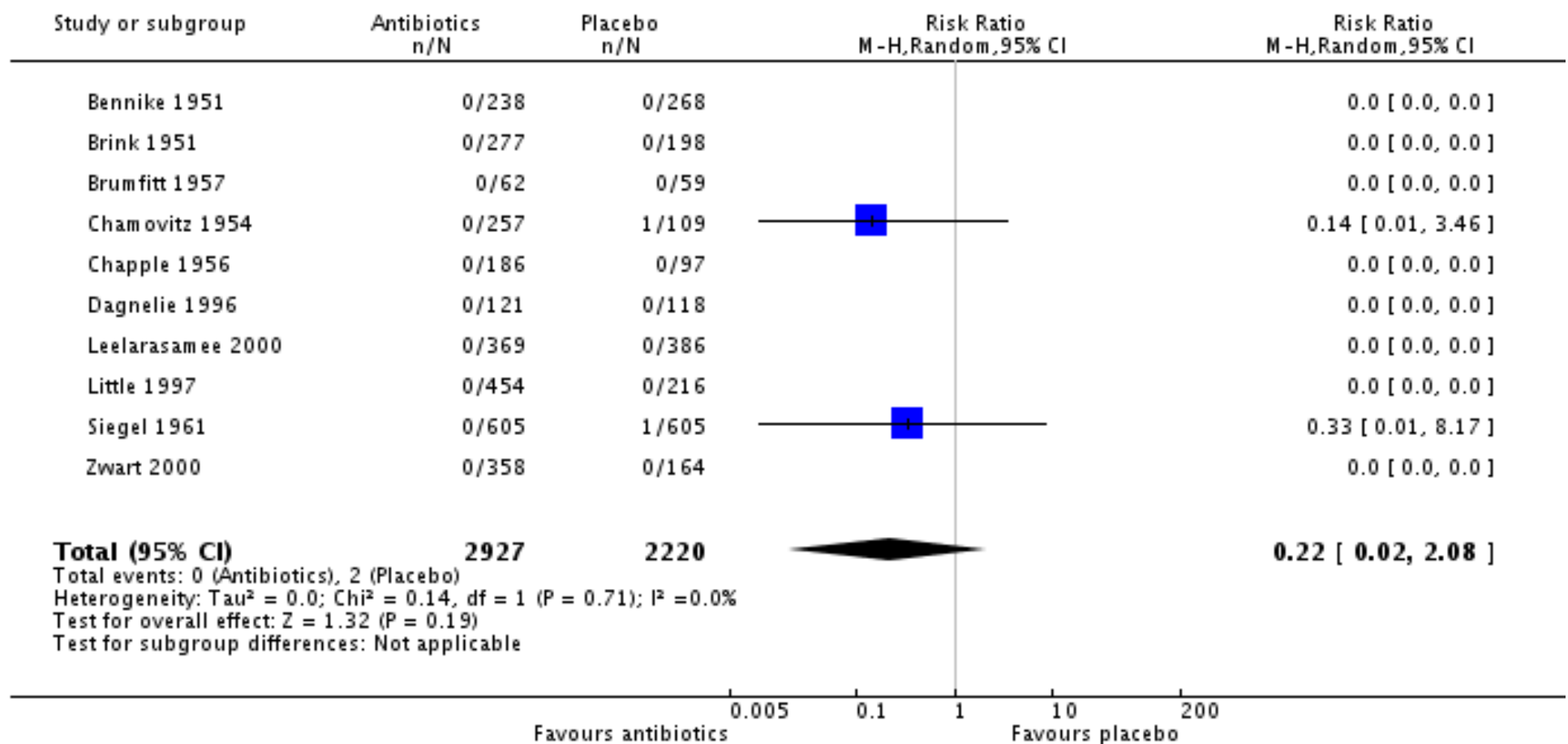


Not Quite Preventing PSGN

Review: Antibiotics for sore throat

Comparison: 1 Antibiotics versus placebo for the treatment of sore throat: incidence of complications

Outcome: 8 Incidence of acute glomerulonephritis within 1 month. Acute glomerulonephritis defined by clinical diagnosis

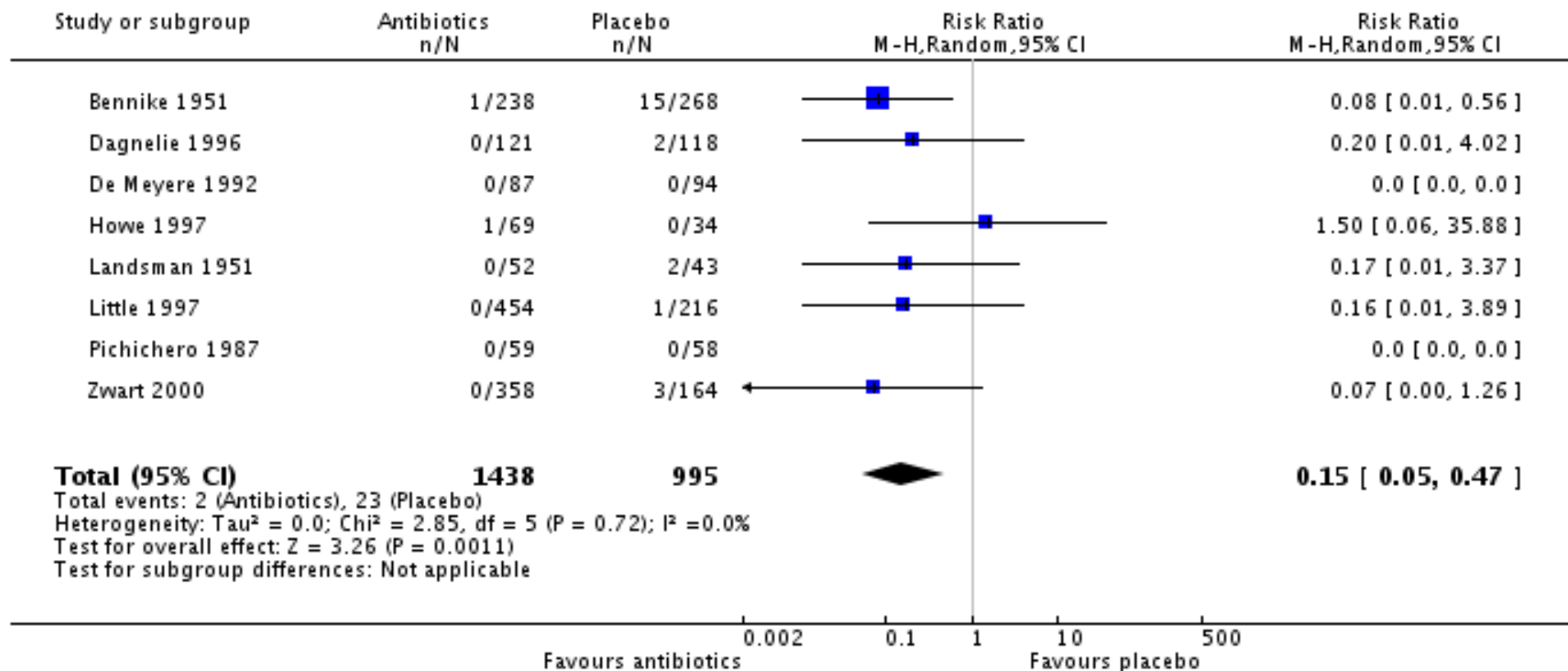


Treatment Prevents Quinsy

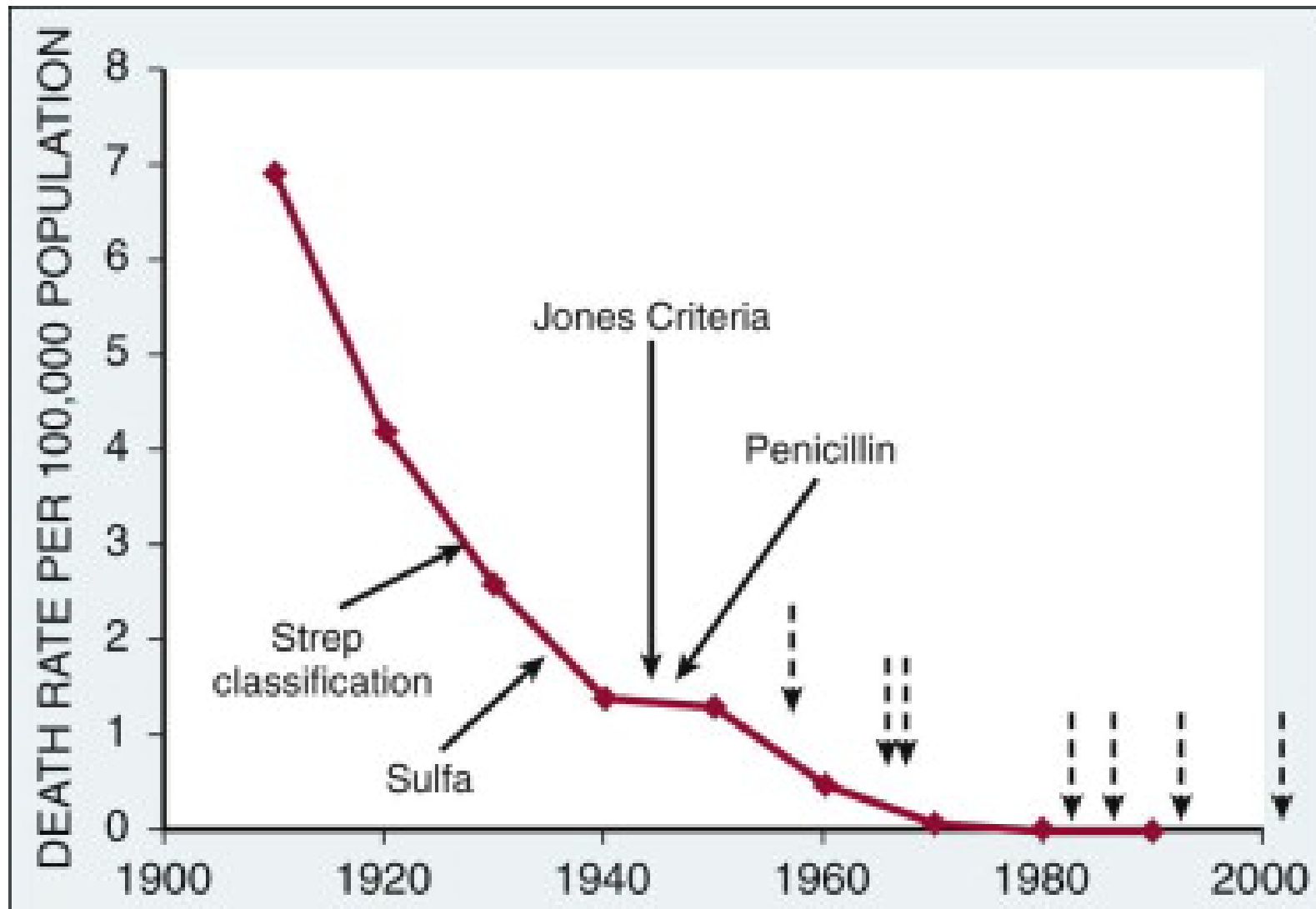
Review: Antibiotics for sore throat

Comparison: 1 Antibiotics versus placebo for the treatment of sore throat: incidence of complications

Outcome: 7 Incidence of quinsy within 2 months. Quinsy defined by clinical diagnosis



Rheumatic Fever is Rare in the US



So, Treat It If You Find It

Preferred

- Penicillin or amoxicillin X 10 days (strong, high)
- Pen-allergic (non-anaph) cephalexin X 10 days
- Pen-allergic (severe) clindamycin or clarithromycin X 10 days or azithromycin* X 5 days (strong, mod.)

Avoid

- Tetracyclines, sulfa, tmp/sxt, cipro
- Cefdinir, cefpodoxime

*12 mg/kg (max 500 mg)
each day

Streptococcal Pharyngitis: Indications for Tonsillectomy

(strong, high)

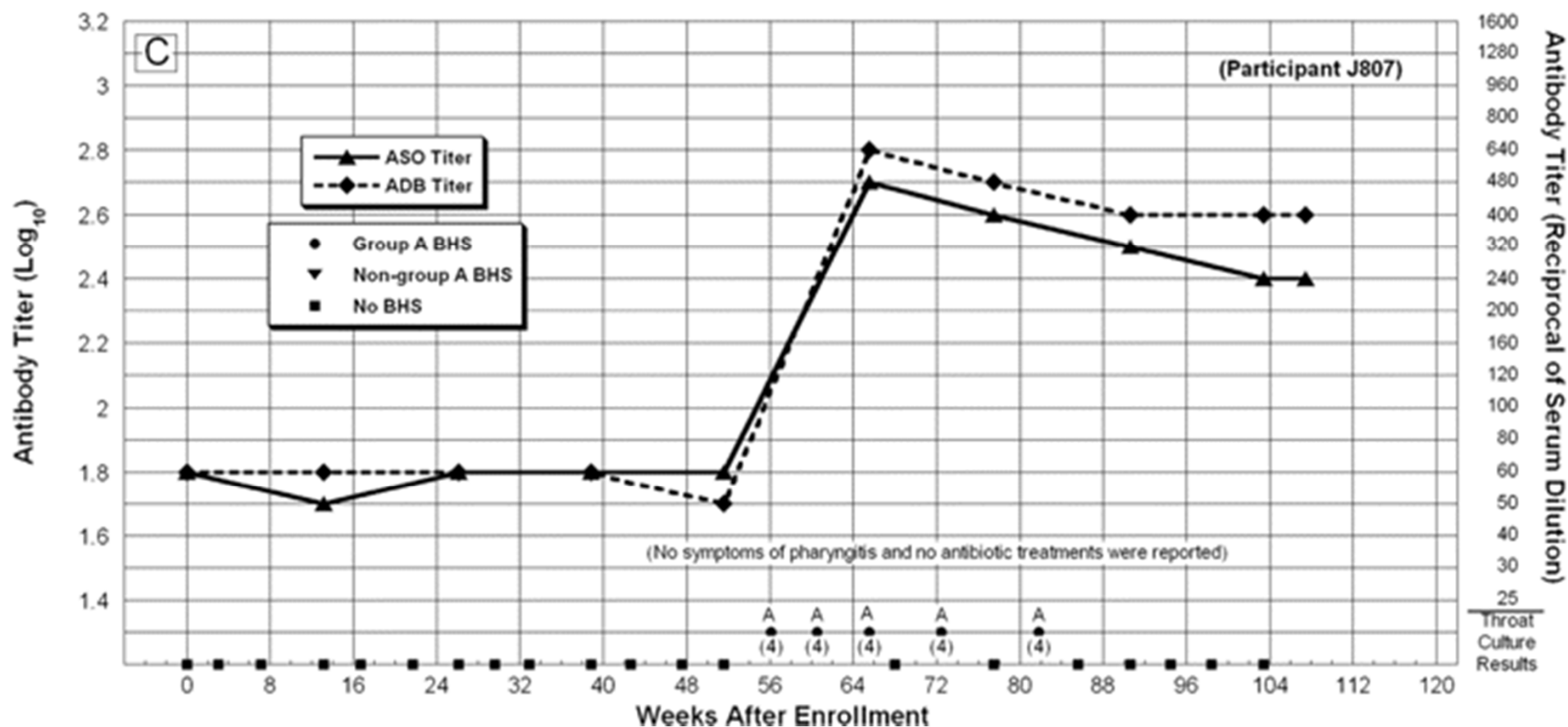
5 yo with recurrent strep infections

- **8 episodes of “streptococcal pharyngitis” in past 18 months, plus 1 episode negative for strep but still treated**
 - **both summer and winter**
 - **family members often with symptoms, but don’t test positive**
 - **doesn’t always complain of sore throat**
 - **uncertain details of examinations**



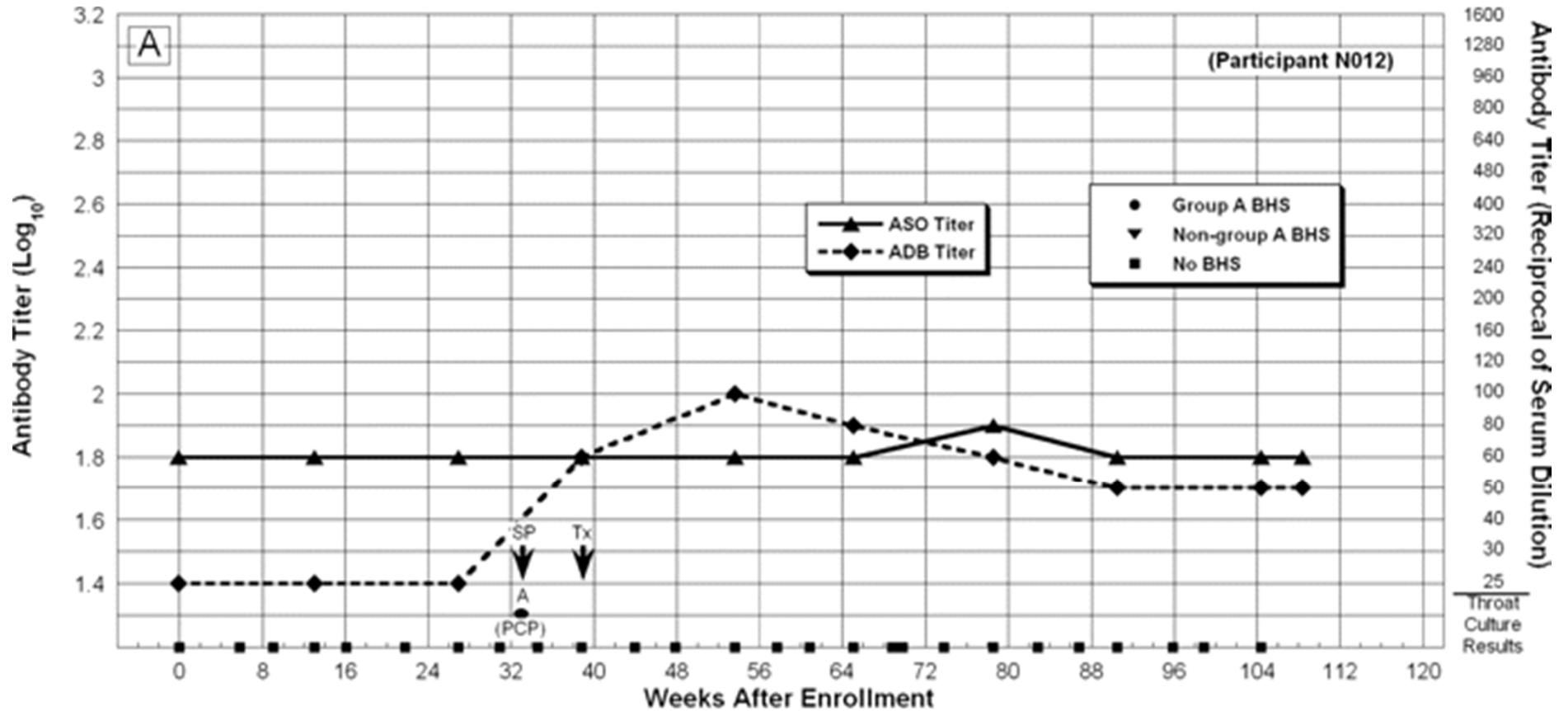
≠ Strep Carrier

GAS Serology Doesn't Help (Too much variability)

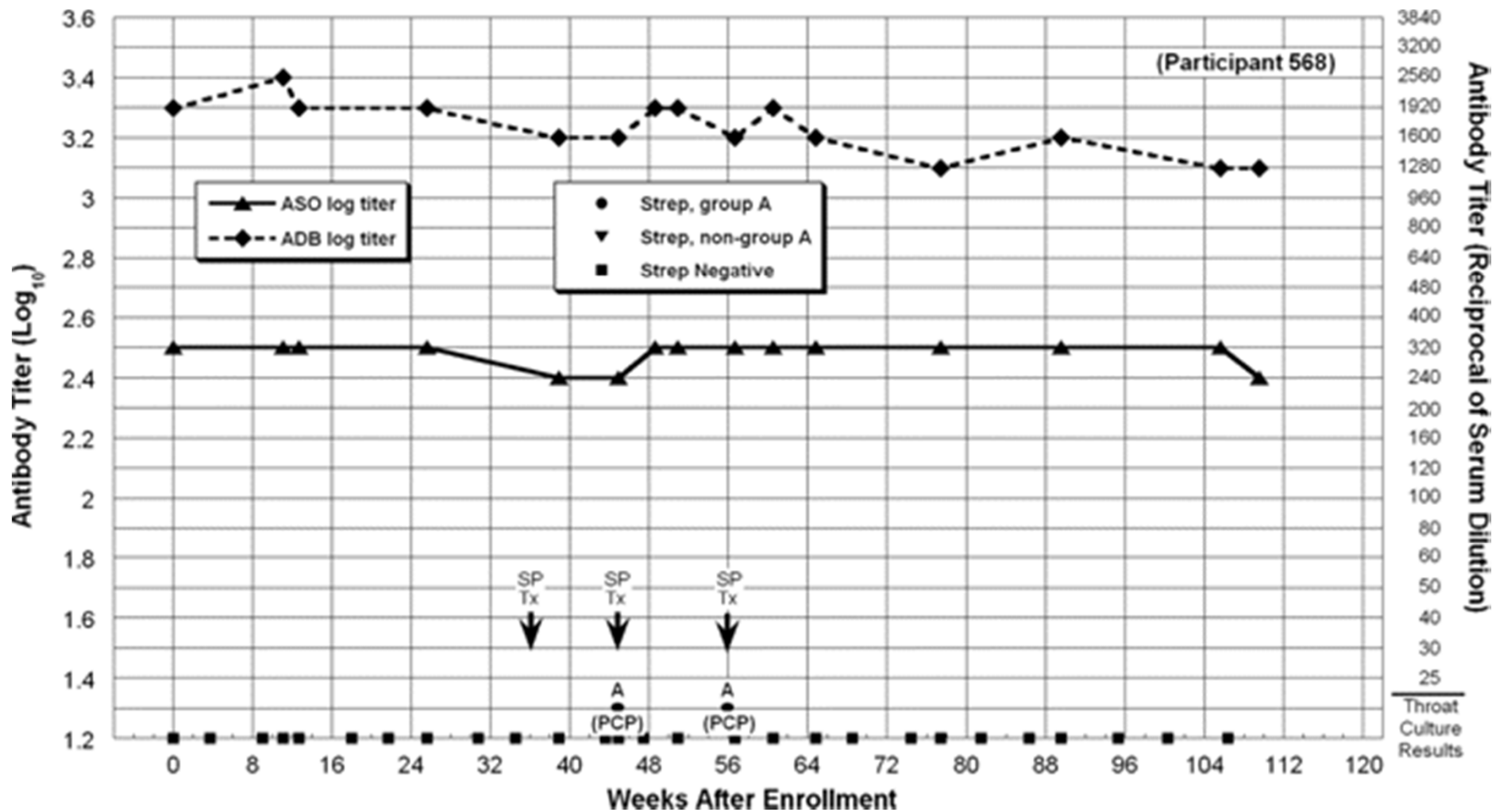


Clin Infect Dis 2010; 50:481-90

Only AntiDNAse B Response



Persistently High Levels



Some Regimens Better for Bacterial Eradication

- **Clindamycin X 10 d (strong, high)**
- **Penicillin X 10 d plus rifampin last 4 days (strong, high)**
- **Amoxicillin/clavulanate X 10 d (strong, moderate)**
- **IM benzathine penicillin X 1 plus rifampin X 4 d (strong, high)**

I Hope You Remember

- **Clinical features alone are insufficient to rule in GAS pharyngitis**
- **Don't test if very likely viral illness or if no pharyngitis**
- **Treatment helps symptoms a little; other benefits are rare**
- **Most repeatedly positive patients are carriers**

Questions & Further Resources

- <http://www.idsociety.org>
- Pediatric Infection Connection
 - <http://pediatricinfectionconnection.org>



- Evidence eMended
 - <http://aapgrblog.blogspot.com/>

