

Management of Febrile Infants

7-90 Days of Age

Kenneth B. Roberts, M.D.
PHM Meeting
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Disclosures

- I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services.
- I do not intend to discuss an unapproved/investigative use of a commercial product/device. However, . . .

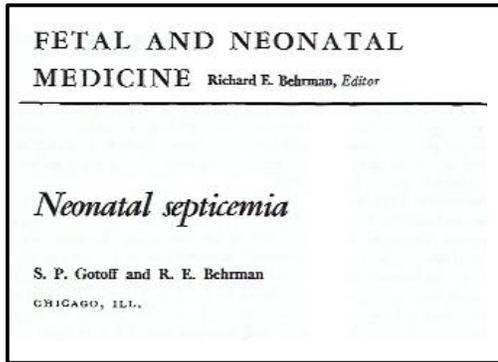
Disclaimer: AAP Guideline

- I will discuss the AAP Febrile Infant Guideline, which is still a work in progress; what is presented today is not the final.
- Your thoughts, comments, and suggestions are not only welcome but are invited at the end of this presentation

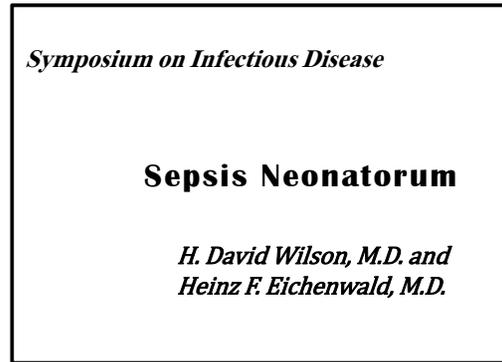
This Presentation

1. We know what to do (right?)
2. Terms
3. Infants who do not appear well
4. Infants who do appear well
5. Conclusions
6. Your thoughts, comments, suggestions

We Know What to Do (Right?)



Journal of Pediatrics Jan., 1970

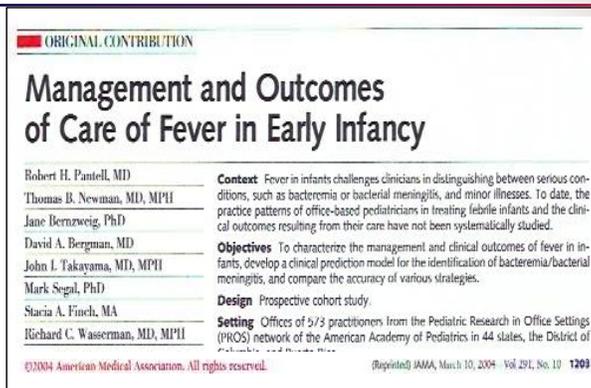


Pediatric Clinics N.A. Aug., 1974

So the baby gets ...

- Catheterized
- Venipunctured
- Lumbar punctured
- Restrained and stuck x 3 for IV access
- Hospitalized
- Treated with antimicrobial therapy
- Separated from her family

We Know What to Do (Right?)—BUT...



JAMA March, 2004

We Know What to Do (Right?)—BUT...

- Febrile infants <30 days old:
 - PROS study and Northern Cal. Kaiser data:
 - Fewer than 1/2 received complete lab evaluation, hospitalization, and antimicrobial treatment
 - 2 national studies of EDs:
 - Fewer than 3/4 received full evaluation; ~2/3 received “full” management
- Febrile infants 30-90 days old:
 - PROS: 42% of well infants received full lab eval; only 32% of ill infants received “full” management



AAP Guideline Committee

- Robert Pantell, Chair
- Charles Woods, Epidemiologist
 - William Adams
 - Carrie Byington
 - Nathan Kuppermann
 - Patricia Lye
 - Michelle Macy
 - Stephen Pearson
 - Keith Powell
 - Kenneth Roberts
 - Jeb Teichman

This Presentation

1. We know what to do (right?)
2. **Terms**
3. Infants who do not appear well
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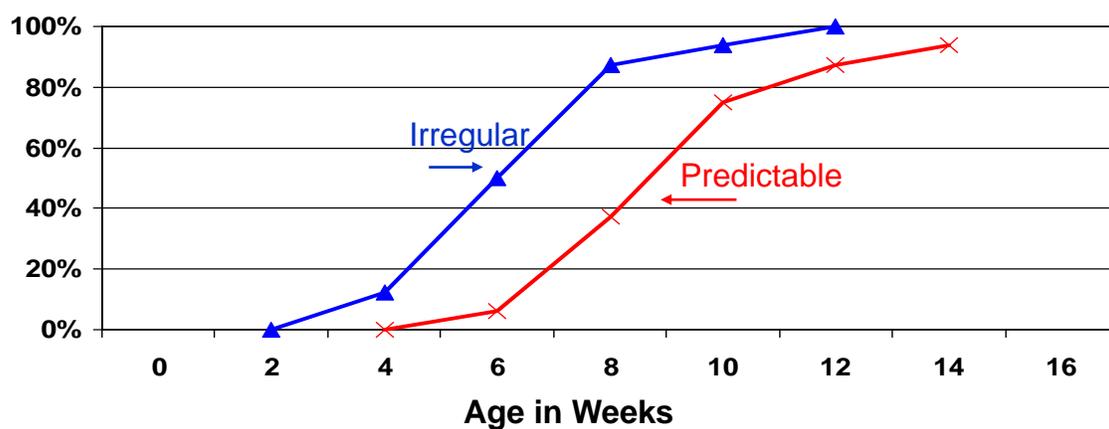
Terms

- Age
- Well appearance
- Evidence-based guidelines; Recommendations
- “SBI”
- Observation

Terms

- Age: 7-90 days
 - Exclude 0-7 days
 - Not >90 days (eg, 2-24 months, 3-36 months...)
 - Still not homogenous:
 - 7-28 days
 - 29-60 days
 - 61-90 days

Social Smile by Age in Weeks



J Am Acad Child Psychiatr 1972;11:177-200

Terms

- Age: 7-90 days
- Well appearance
 - **Well**; Not well (subset: very ill)
 - Presumes we can all assess with validity
 - Clinical judgment performs better than lab eval alone, but not 100% sensitive or specific
 - Low risk is not no risk; role of guideline to reduce risk

Terms

- Age: 7-90 days
- Well appearance: Well, not well
- Evidence-based guidelines; Recommendations

Terms: Evidence-based...

- Evidence-based:
 - Based on evidence, not on “expert opinion” or “consensus”
 - Specify quality of evidence, strength of recommendation
 - Acknowledge “holes” in data: No answer available
 - Acknowledge value judgments: eg, meningitis: What NNT warrants performing LP?
 - Avoid substituting committee opinion for yours

Terms: Guidelines, Recommendations

- Not rules: “...the foundation upon which a more nuanced approach, based on individual circumstances,...lead to an optimal approach to evaluating and managing each febrile infant.”
- “Approaches will of necessity differ due to physician experience, nature of relationship with the infant’s family, characteristics of the clinical setting, availability of clinical resources, maternal, prenatal and perinatal history, as well as the infant’s age, exposures, clinical and laboratory findings.”

Terms: Guidelines, Recommendations

- Corollaries:
 - **Algorithm**: A diagram that creates the illusion that all decisions are black and white with no shades of gray
 - **Footnotes**: The overlooked part of algorithms that attempt to provide nuance
 - **Text**: The overlooked part of the guideline between the title and the algorithm that provides both evidence and nuance

Terms

- Age: 7-90 days
- Well appearance: Well, not well
- Evidence-based guidelines; Recs: Not rules
- Avoid use of “SBI”
 - The term obfuscates differences between UTI, bacteremia, and meningitis
 - UTI ~20x more frequent than meningitis
 - More useful to think of each diagnosis separately

Terms

- Age: 7-90 days
- Well appearance: Well, not well
- Evidence-based guidelines; Recs: Not rules
- Avoid use of “SBI”
- Observation: an active process

Terms: Observation

- In Hospital: Nurses experienced in care of 7-28d olds
- At Home: Parent(s) have “sufficient experience, confidence and comfort to carefully monitor infant’s behavior, fever, feeding pattern and to identify changes in color, irritability, consolability and increased crying or general evidence of discomfort.... must also have a way to immediately contact the provider if there is any change and for the provider to be able to check in with the family, reliable transportation, and the ability to return for follow-up.”

Forthcoming AAP Guideline

- Inclusions:
 - Age: 7-90 days
 - Appearance: Well
 - Fever: Temp $>38^{\circ}\text{C}$
 - Gestation: 37-43 weeks
- Exclusions:
 - Prenatal/perinatal/neonatal: Maternal fever, infection, antimicrobial treatment
 - Evident infection
 - Technology-dependent; congenital anomalies

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Infants Who Do Not Appear Well



When You're Not Sure: Ill? Well?



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4. **Infants who do appear well**
 - a. 7-28 days
 - b. 29-60 days
 - c. 61-90 days
5. Conclusions
6. Your thoughts, comments, suggestions

**To be discussed at
conference but slides
embargoed from syllabus**

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Conclusions

- Evidence-based guideline– not rules
- Avoid “SBI”; consider components separately
- Well vs non-well
- Place for “kinder, gentler” approach – but limited
 - “Withholding” does not imply “depriving”
 - “Withholding” is not a one-time, final decision
 - Observation is an active, not passive, process

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 - -robert.pantell@ucsf.edu
 - -kenrobertsmd@gmail.com