

Hot Topics in Pediatrics

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Disclosure

- In the past 12 months, Mr. Barry has not had any significant financial interest or other relationships with the manufacturers of products or providers or services discussed in this presentation.
- This presentation will not “off-label” use of any products.

Objectives

- Discuss recent changes in pediatric practice guidelines, including new recommendations for management of febrile UTIs in toddlers, new ADHD guidance, infant sleep guidelines, and many more.
- Learn how to incorporate these guidelines into everyday patient care.
- Discuss additional pediatric topics that are receiving significant media attention over the past year.

Hot Topics

- New febrile UTI guidelines
- New ADHD guidelines
- New cholesterol screening guidelines
- New pneumonia treatment guidelines
- New guidance on HIV testing for teens
- Infant safe sleep environment
- New guidance on flat head syndrome
- Updated car safety seat guidelines

Febrile UTI Guidelines

Febrile UTI Guidelines

- Applies **ONLY** to infants aged 2-23 mos
- 7 Evidence-based recommendations
- 4 significant changes from 1999 guidelines
- Major change in imaging & prophylaxis recommendations
- Emphasizes that clinical judgment trumps all else

Febrile UTI Guidelines

1. Specimen collection

- If clinician decides that a febrile infant with FWS needs abx, must obtain urine for UA and Ucx
- Urine specimen must be obtained by catheter or SPA
- No role for bagged urine specimens
 - Too much chance for contamination

Febrile UTI Guidelines

2. Risk Stratification

- If febrile infant with FWS, clinician should assess likelihood of UTI
 - If low risk, clinical f/u w/o testing is OK
 - If NOT low risk (see next slide), then 2 choices:
 - 1) Obtain urine through cath or SPA for UA & Ucx
 - 2) Obtain urine, through most convenient way, for UA
 - If this UA has positive nitrites or LE, then must get another urine specimen through cath or SPA for UA and Ucx
 - If this UA is negative for nitrites and LE, assume OK to monitor without antibiotics

Febrile UTI Risk Factors

Individual Risk Factors: Girls	Probability of UTI	No. of Factors Present	
White race Age < 12 mo Temperature $\geq 39^{\circ}\text{C}$ Fever ≥ 2 d Absence of another source of infection	$\leq 1\%$	No more than 1	
	$\leq 2\%$	No more than 2	

Individual Risk Factors: Boys	Probability of UTI	No. of Factors Present	
Nonblack race Temperature $\geq 39^{\circ}\text{C}$ Fever > 24 h Absence of another source of infection	$\leq 1\%$	Uncircumcised	Circumcised
		a	No more than 2
	$\leq 2\%$	None	No more than 3

Febrile UTI Guidelines

3. Diagnosis

- Diagnosis must include abnormal UA **AND** a positive culture
- Positive culture = 50,000 cfu/mL
- Urine must have been obtained from cath or SPA

Febrile UTI Guidelines

4. Treatment

- PO and parental tx are equally effective
- Clinician should know local abx resistance
- Treatment duration: 7-14 days
- Nitrofurantoin is not effective

Febrile UTI Guidelines

5. Ultrasound

- Infants with febrile UTI should undergo renal and bladder ultrasound (RBUS)
 - To detect anatomic abnormalities
 - Relatively low yield due to prenatal US
 - Timing:
 - If no improvement or worsening, 2 days
 - Otherwise, may delay (1-2 weeks or so)

Febrile UTI Guidelines 6. VCUG

- VCUG is no longer routinely recommended after first febrile UTI
- Indicated if RBUS shows hydronephrosis, scarring, etc.
- VCUG recommended if recurrent febrile UTIs

Febrile UTI Guidelines 7. Follow-up

- After confirmed UTI, parents should be instructed to seek prompt medical evaluation (ideally within 48 hours) for future febrile illnesses

Febrile UTI Guidelines- Summary

- In FWS/FUO, must obtain urine through cath or SPA before antibiotics given
- Diagnosis must include abnormal UA AND a positive culture
- PO treatment usually adequate

Febrile UTI Guidelines- Summary (cont)

- Febrile infants with UTIs need RBUS
- VCUG should NOT be routinely performed after 1st febrile UTI
- After 1st UTI, must seek prompt tx for future febrile illnesses

New ADHD Guidelines

ADHD Diagnosis

- Initiate evaluation of children ages 4-18, w/ behavioral or academic problems plus:
 - Inattention, hyperactivity, or impulsivity
- Use DSM-IV criteria
 - Obtain parent & teacher reports
 - Rule out all other causes

ADHD- Comorbidities

- Must evaluate for comorbidities, incl:
 - Emotional/behavioral (i.e. Depression, Conduct Disorder, ODD, anxiety)
 - Developmental (learning/language disorders or neurodevelopmental d/o)
 - Physical (sleep apnea, tics, etc.)
- **Chronicity**
 - Recognize children with ADHD as having special health care needs

ADHD- Treatment

- **Preschool (4-5): Behavioral therapy first. Methylphenidate if no improvement.**
- **Elementary (6-11) & Adolescent (12-18): ADHD meds (+ therapy if possible).**
 - Stimulants preferred due to efficacy
 - Atomoxetine, guanfacine, and clonidine may also be used, preferred in that order
 - School should be involved in plan of care
- **Titrate to dose w/maximum benefit & fewest side effects.**

Cholesterol Guidelines

Cholesterol Screening

- AAP Presentation at AHA Meeting 2011
- **ALL children**
- **At least once between age 9-11**
- **Again at age 17-21**

Why the Change?

- **Currently only test those at highest risk**
 - FH cardiac events/high cholesterol
- **However, parents of children are likely young themselves, so events may not be a good measure of risk**
- **Routine screening- no fasting necessary beforehand**
 - Just need a "non-HDL" cholesterol
 - For those with risk factors, fasting lipids is preferred

Other CV Recommendations

- **Protect kids from tobacco smoke & start anti-smoking advice ages 5-9**
- **Monitor BMI and seek dietician for >85th %ile for age w/o change in 6 mos**
- **Routine BP checks age 3 and up**
- **Physical activity & Limit screen time**
- **Measure fasting glucose age 9-11**

To Fast, or not To Fast...

- Fasting only provided a small difference in TC, HDL, & LDL
- Clinically insignificant
- Current Guidelines call for fasting
- Can be difficult, as need to return for separate visit, which may not occur
- If results confirmed, may not be necessary to fast in the future

Community-Acquired Pneumonia Guidelines

CAP Guidelines

- Prepared by expert panel
- Published by IDSA
- Endorsed by AAP
- Evidence based
 - Strong/Weak Recommendations
 - High, Medium, Low Quality Evidence
- 92 recommendations

CAP Prevention

- Immunize against Hib, S. pneumoniae, and pertussis
- Children >6 months should receive an influenza immunization
- Parents/caretakers of children <6 mos should receive flu and pertussis immunizations
- High risk infants should receive RSV immunization w/monoclonal Ab

CAP- When to Hospitalize

- Moderate to severe CAP
 - Respiratory distress & hypoxemia (<90% SpO₂)
- Infants <3-6 months w/suspected bacterial pneumonia
- Suspected or documented MRSA
- Those whom there is concern about close observation/ follow up at home, or those with poor compliance

CAP- Diagnostic Testing

- Blood cultures should NOT be performed routinely in healthy, non-toxic, fully-immunized children w/CAP in outpatient setting
 - BCx- Yes if no clinical improvement or if hospitalized
- Urinary antigen tests useless
- Flu & RSV tests should be done
 - If flu positive, abx not needed if no evidence of bacterial pneumonia

CAP- Chest Radiography

- Routine CXR not needed for dx of pneumonia if treated as outpatients
- CXR- yes if suspected or documented hypoxemia or respiratory distress or if abx fail
- F/u CXR not needed if recover OK- only if no recovery or worsening

Antimicrobial Treatment- Outpatient

- Abx not routinely needed for pre-school age kids w/pneumonia
- Amoxicillin- 1st line for previously healthy, immunized kids w/mild to moderate CAP thought to be bacterial
- Macrolides rec for kids w/atypicals like mycoplasma
- Treat flu w/antivirals as appropriate

Antimicrobial Treatment- Inpatient

- Amp or Pen G for fully immunized infant or school age child in areas w/low resistance
- Empiric therapy w/3rd gen cephalosporin for hospitalized kids who are not fully immunized or in areas of high resistance to PCN
 - Vanc no more effective than 3rd gen cephalo

New HIV Screening Guidelines

CDC Recommendations

- HIV testing for all patients ages 13-64
- Testing should be "Opt-Out"
- Testing should not require either pretest counseling or written consent prior to testing

AAP Recommendations

- Routine HIV screening with EIA for all adolescents ages 16-18 in areas with general HIV prevalence >0.1%
- In areas of lower HIV prevalence, routine HIV testing

Infant Safe Sleep Environment

Safe Sleep Environment

- SIDS Rate has decreased 53% since 1992
- No significant decrease in SIDS since
- Accidental suffocation & strangulation rates have increased 4x b/t 1984-2004
- New report emphasizes suffocation and entrapment as reasons babies die, in addition to SIDS

SIDS

- 10% have underlying cardiac arrhythmias
- 70% had brain stem abnormalities preventing them from responding normally to stressors during sleep

SIDS- Risk Factors

- Stomach sleeping
- Soft bedding
- Lack of breastfeeding
- Incomplete immunizations
- Bed sharing
- Overheating
- Exposure to maternal smoking, alcohol, and drug use

Reducing SIDS Risk

- Immunizations & any breastfeeding provides protection
- Bed sharing=risky; Room sharing=good
- 1/3 of SIDS deaths could be prevented if mothers did not smoke during pregnancy
- Pacifier use cuts SIDS risk by 50%

Additional safe-sleep recommendations

- All infants- back to sleep until 1 year
- Baby on firm mattress w/only fitted sheet
- Car seats, strollers, swings should not be used routinely for sleep
- Remove loose bedding & soft objects like pillows, quilts, comforters, bumper pads, etc from crib
- Do not overdress the baby
- No role for wedges, positioners, or SIDS monitors

Positional Skull Deformities (Plagiocephaly)

Plagiocephaly

- Largely due to “Back-to-sleep”
- 13% incidence
- Preventable by early repositioning
- Counsel during newborn period & well checks during infancy

Plagiocephaly: Advice for families

- Place infant to sleep on back
- Each night, alternate the direction the baby’s head faces
- Avoid prolonged use of swings & carseats when not in vehicle
- Minimum of 30-60 minutes of supervised tummy time daily

Plagiocephaly

- Vast majority of skull deformities go away without intervention by age 3
- Little evidence to show benefit of helmets
- If requires referral, send to pediatric neurosurgeon
- Differentiate plagiocephaly from craniosynostosis

Car Seat Recommendations



Rear-facing longer

- Rear-facing until age 2
 - Or until maximum weight/height of seat
- THEN, in forward-facing seat w/harness
 - Up to maximum limit of seat (2-8 years)
- THEN, in belt-positioning booster seat until seat belt fits properly on its own (usually between 8-12 years)
- All children 13 and under- REAR seat

**AAP Information for patients and providers:
www.aap.org/immunization/families/safety.html**

Thank you!

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