Pediatric Dogmas 3.0  
Where’s the Evidence?  

Ricardo A. Quinonez, MD  
Kavita Parikh, MD  
Eric Biondi, MD  
Alan Schroeder, MD  

Disclosure  
We have no conflicts of interest to disclose  
We do not intend to discuss the use of any unapproved devices or therapies  
We DO intendent to disproove unsupported devices and therapies
“Science must begin with myths and with the criticism of myths”

Karl Popper

Merriam-Webster:

“**Dogma:** Belief or set of beliefs that is accepted by the members of a group without being questioned or doubted”

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**Agenda**

- Introduction – Biondi

- Major Dogma 1 – Parikh/Biondi

- Rapid Fire True/False – Quinonez

- Listserv Dogmas – Parikh
  - Selected Dogma 1 Woomer
  - Selected Dogma 2 Garber

- Major Dogma 2 – Schroeder
Our Biases

Eric Biondi

“The one thing that unites all human beings, regardless of age, gender, religion or economic status, is that deep down, we all believe we are above average drivers.”
46.3% regard themselves among the most skillful 20%. The corresponding number in the Swedish group was only 15.5%. In the US sample 93% believed themselves to be more skillful drivers than the median driver and 69% of the Swedish drivers shared this belief in relation to their comparison group.

In summary, there was a strong tendency to believe oneself as safer and more skillful than the average driver. In addition, there seemed to be a stronger tendency to believe oneself as safer than and more skillful than the average person.


than 0; all ts(13) > 1.79, all ps < 0.10. Only one participant (0.1%) had an average bias blind spot score that was significantly lower than 0 (t(13) = -2.46, p = 0.03).
“It is useless to attempt to reason a man out of something he was never reasoned into.”

Jonathan Swift

A 500 gram projectile is launched at a 55 degree angle and an initial velocity of 6 m/s. Please solve for x, where x is the distance in meters from point A at which point y = 1.2 m.

Assume acceleration of gravity is 9.8 m/s² and a drag coefficient of 0.47.
A bat and a ball together cost $1.10. The bat costs $1.00 more than the ball. How much does the ball cost?

Bat = $0.10
Bat = $0.10...But...
$1.10 + $0.10 = $1.20?

x + ($1.00 + x) = $1.10
x + x = $0.10
2x = $0.10
x = $0.05
$0.05 + $1.05 = $1.10
Is the tallest redwood tree higher or lower than 1200 feet?

What is the height of the tallest redwood tree?

Is the tallest redwood tree higher or lower than 180 feet?

What is the height of the tallest redwood tree?
Is the tallest redwood tree higher or lower than 1200 feet? Mean = 844 feet

Is the tallest redwood tree higher or lower than 180 feet? Mean = 282 feet

What’s the category?

George Washington  Thomas Jefferson  John Adams
DOGMA

Intravenous antibiotics are superior to oral antibiotics
What is the correct IV duration for common bacterial conditions?

Transitioning from IV to PO antibiotics?

It Is Raining PICC lines...
Outline

• When does IV therapy yield more harm than benefit?
• Evidence-based review of IV abx for common bacterial infections:
  • Urinary Tract Infection
  • Osteomyelitis
  • Complicated PNA
What drives prolonged IV courses?

- Bacterial infections are bad so more IV is better
- Enteral absorption
- Lack of evidence
- Fear of recurrences
- Compliance

Instead we rely on practice variability

- Osteomyelitis: Zaoutis, Pediatrics, 2009
- UTI: Keren, JAMA Peds 2015
- Complicated PNA: Shah, Pediatrics 2016
- Bacteremic UTI: Schroeder, Arch Dis Child 2015
Or we rely on experts

*The Red Book is designed for people who make decisions. It cannot waffle on an issue. It has to make a positive recommendation, even if the data are incomplete and even if it will subsequently be changed for the next edition (V. Fulginiti, M.D., personal communication, 1888).*

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As soon as a new but still unproved method of treatment is adopted by even a minority of the medical profession, it becomes virtually impossible to conduct the controlled trial that alone can furnish truly reliable evaluation of its effectiveness and its hazards.¹

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**Intravenous Antibiotic Durations for Common Bacterial Infections in Children: When Is Enough Enough?**

Alan R. Schroeder, MD²; Shawn L. Ralston, MD²

*Department of Pediatrics, Santa Clara Valley Medical Center, San Jose, California; *Department of Pediatrics, Geisel School of Medicine at Dartmouth, Hanover, New Hampshire.*
Survey Data

How long do you treat with IV therapy for an uncomplicated UTI in a 2-week old FT infant??

Joshi, Lucas, Schroeder et al, unpublished data
Urinary Tract Infections

• PO abx for well-appearing children
• Supported by 2007 Cochrane
• Supported by 3 RCTs published after Cochrane
  • Bouquet, Pediatrics, 2012
  • Bouissou, Pediatrics 2008
  • Neuhaus, Eur J Pediatr, 2008

Urinary Tract Infections: < 2 months of age

- Brady, Pediatrics 2010
  • PHIS data
  • 3,383 infants < 30 days
    • 2.3% failure in short IV course (< 4 days)
    • 2.4% failure in long IV course (≥ 4 days)

- Magin, Ped Emerg Care 2007
  • Single center, Retrospective
  • 172 infants < 1 mo
  • Median (IQR) duration IV 4 (3-6) days
  • No treatment failure or relapse

- Dore-Bergeron, Pediatrics 2009
  • Single center, Retrospective
  • 118 infants 30-90 days
  • Mean duration 3-4 days IV
  • No relapses
What would Alan do?

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Treatment Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 month</td>
<td>- IV 24-48 hours until improved and sensitivities known</td>
</tr>
<tr>
<td>1-3 months</td>
<td>- IM CTX 24-48 hours until sensitivities known</td>
</tr>
<tr>
<td>&gt;3 months</td>
<td>- Oral (choice dependent on local susceptibilities)</td>
</tr>
</tbody>
</table>

Osteomyelitis

Keren, *JAMA Peds* 2015
- 2060 children (PHIS, supplemented by chart review)
- PICC in 1055 (51%)
- Propensity matching: No difference in treatment failures
- 15% of kids with PICCs had complication prompting ED visit or rehospitalization

Peltola, *PIDJ* 2010
- RCT of 20 vs 30 total days
- IV for 2-4 days in each group
- N=131 cases, excellent outcomes both groups

Arnold, *Pediatrics* 2012
- Transition to PO based on resolution of fever, pain, function of affected region, and CRP < 3 mg/dL
- Mean of 10 days IV
- N=194; one treatment failure after oral step-down
Complicated Pneumonia

Shah, Pediatrics 2016

- 2123 children (PHIS, supplemented by chart review)
- 281 (13.2%) got PICC at discharge
- No difference in treatment failure
- 7.1% PICC complication rate

Best approach?

- Respect the null hypothesis
- Consider:
  - Severity of infection
  - Response to therapy
  - Patient compliance
  - Family preferences
  - Assessment of harms of ongoing hospitalization/IV therapy
  - Shared Decision Making
Rapid Fire Dogmas
True or False?

Ricardo Quinonez

Flossing prevents cavities

True or False?
Cochrane


- Some limited evidence for gingivitis reduction
- Extremely weak evidence for plaque prevention
- NO evidence for cavity prevention

Harm: Enamel and gum damage, translocation of bacteria to blood
Otitis Media

Bullous myringitis you should think of mycoplasma

True or False?

Conjunctivitis and otitis syndrome is usually caused by non-typeable H. flu (NTHi)

True or False?

Conjunctivitis-otitis Syndrome

• TRUE!
  - Epidemiologic study of conjunctivitis-otitis syndrome, Bingen et al, Pediatr Infect Dis J., 2005
    • 2901 children with OM 465 with purulent conjunctivitis
      • 89% of children with otitis/conjunctivitis had NTHi
      • 17% S. pneumo
  - Same side?
Bullous Myringitis and Mycoplasma False!

- 5% of children more painful than non-bullous AOM
  - Hausdorff WP et al, Pediatr Infect Dis, 2002

- Pathogen distribution is similar to AOM
- Treatment and prognosis equivalent to AOM
  - McCormick et al, Pediatrics, 2003

- Where did it come from?
  - Ear involvement (myringitis) and primary atypical pneumonia following inoculation of volunteers with Eaton agent. RIFKIND D et al Am Rev Respir Dis. 1962;85:47

Salt is Dangerous

- Landmark studies two decades ago pointed to high salt intake and increase risk of high BP and risk of death from CV disease

- Recent studies have confirmed that diets of sodium >7 grams per day lead to higher heart attacks and overall mortality than people who consumed between 3-6 grams
  - O’Donnell, M et al, NEJM, 8/2014
What you don’t know CAN hurt you!

Low and High Salt Intake, and a Higher Risk of Death

A study of more than 100,000 people found that both low and high sodium excretion, which is directly related to sodium consumption, was associated with an increased risk of death and cardiovascular disease.

Rates of mortality and cardiovascular events, depending on grams of sodium excretion per day

<table>
<thead>
<tr>
<th>Risk of death from all causes</th>
<th>Major cardiovascular event</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2g</td>
<td>2.7%</td>
</tr>
<tr>
<td>3–4g</td>
<td>2.0%</td>
</tr>
<tr>
<td>4–6g</td>
<td>1.8%</td>
</tr>
<tr>
<td>6–7g</td>
<td>1.8%</td>
</tr>
<tr>
<td>&gt;7g</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1.8%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.6%</td>
</tr>
</tbody>
</table>

Source: NCEM, "Urinary Sodium and Potassium Excretion, Mortality, and Cardiovascular Events"

• FDA – 2.3 grams/day
• WHO – 2 grams/day
• AHA - 1.5 grams/day

Overcorrection

Giving a bolus to an infant improves LP success rates True or False?

• FALSE

  - CHLA-ER 40 patients 0 – 3 months of age with pyloric stenosis
  - US measured difference in CSF with space pre and post bolus
    - Mean measure before bolus 37.8 mm²
    - After bolus 36.9 mm²
    - P = 0.42
We need to drink 8 glasses of water per day
TRUE or FALSE?

Increased water consumption helps with
weight loss/better skin/better hydration
TRUE or FALSE?

Magic Water

• FALSE!

• 1945 Nutrition Board Recommendation
  - People need 2.5 liters of water per day
  - “Most of this quantity is contained in prepared foods”

• RCTs – no improvement in kidney function or all cause mortality

• Prospective studies show no association between increased water consumption and better skin, better hydration or improvement in weight

  Aaron Carroll, NYT, The Upshot, Aug, 2015
**Magic Coffee**

- The most studied drink in history

- Myths: Coffee stunts growth, bad for the heart
  - Several Studies disprove coffee effect on bones and how tall you are
  - A metaanalysis of over 1.2 million people showed moderate coffee consumption was associated with BETTER CV outcomes and larger amounts NOT associated with worse outcomes

- Same story for cancer, stroke, parkinsons, alzheimers, type 2 diabetes
  - In fact for cancer and diabetes there seems to be a dose/effect response

**Magic Coffee**

- Increased Coffee consumption reduces all cause mortality
  - Several metaanalysis confirm this
  - In fact there is a STRONG dose/response effect

- Equipoise – very little RCT data

- Tea?
  - Similar benefits however no as clear dose effect response
Dogmas from the Listserv

Thank you!

- Elizabeth Avila
- Sam Zuckerman
- Ann Beach
- Evelyn Pietrandrea Laskowski
- Matt Garber
- Brandon Smith
- Clifton Lee
- Anand Gourishankar
- Elizabeth Meade

- Nivedita S. Srinivas
- Bethany Woomer
- Stephanie Todd
- Kristin Steuerle
- Sahar Rooholamini
- Liz Bayes
- Sheilah Snyder
- Veronica Etinger
- Anita Raghavan
- Ronen Zipkin
Hospital Practices

Why do we do q4h vitals on all patients?

No labs to be drawn from PIV for fear of clotting.

Why do we advance diets from clear liquid diet to soft to general?

What is the evidence that cutting IVF stimulates thirst/hunger?

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Quiet Please! Minimizing Nighttime Sleep Disruptions in the Stable Inpatient Pediatric Population: A Quality Improvement Project

Clifton C. Lee, MD, FAAP, SFHM, Tracy Lowerre, RN, MS, CPN, Dani Poliakoff, MD, Rozana Shahidullah, MD, Katie Marshall, RN, and Jennifer Brigle, RN

Department of Pediatrics

Children’s Hospital of Richmond at VCU
Lee et al.

• Sleep is crucial to our well-being, yet hospitalized patients have disrupted sleep
• Eligibility criteria to:
  – Skip “hands-on vitals” at 4am
  – Draw labs either before midnight or after 6am
• Iterative PDSA cycles, reduced disruptions overnight
• No patients required higher level of care

Pain Management?

My child is in pain

NSAIDS vs Narcotics
Opiates vs NSAIDS

- Opiates: Nausea/vomiting, sedation, urinary retention, respiratory depression, constipation, ileus

VS

- NSAIDS: Renal and gastrointestinal toxicity, antithrombotic effects, and potentially delayed wound and bone healing

Perioperative NSAIDS Use – To Use or To Not Use

- Risk of Bleeding
  - Decreased tendon healing

- Perioperative Pain Control
  - Decreased Opiate Use
Stay Tuned...

Ketorolac for postoperative pain in children (Protocol)
Rowe E, Cooper TE, McNicol ED

What does the evidence say?

- Majority of evidence from animal models (show delayed bone healing or non-unions with NSAID exposures)
- Clinicians should treat NSAIDS a risk factor for poor bone healing, and avoid in high risk patients (for example, patients with renal disease)

The role of ketorolac in decreasing length of stay and narcotic complications in the postoperative pediatric orthopaedic patient.

Eberson CP¹, Pacicca DM, Ehrlich MG.
Morphine or Ibuprofen for Post-Tonsillectomy Analgesia: A Randomized Trial

91 patients
Randomized
1-10 years of age
Tylenol + Morphine VS Tylenol + Ibuprofen
Outcome: Desaturations Events

WHAT THIS STUDY ADDS: Our findings suggest that ibuprofen does not increase tonsillar bleeding and in combination with acetaminophen is effective for pain management after tonsillectomy. Furthermore, standard morphine doses increased postoperative respiratory events and were not safe in all children.

Baby Dogmas

• What is the evidence to avoid ceftriaxone in children <30 days?
• Do mom’s need to “pump and dump” after getting contrast for CT or MRI?
• What is the evidence behind keeping a newborn upright for 30 minutes after a feed to prevent reflux?
Burping vs No-Burping

- Kaur, Bharti, Saini (National Institute of Nursing Education, India)
- RCT: 71 mother-baby dyads
- Burping vs No-Burping
- Outcome: colic and regurgitation episodes over 3 months
- Conclusion: “Although burping is a rite of passage, our study showed that burping did not significantly lower colic events and there was significant increase in regurgitation episodes in healthy term infants up to 3 months of follow-up.”

Asthma Management?

What is the evidence behind q4h dosing of albuterol compared to q3h dosing?

Steroid dosing? 2 mg/kg divided BID x 5 days. Same dose for PICU patient vs outpatient?
Respiratory

Keeping patient overnight to observe off O2

After weaning oxygen off, the pulse oximetry needs to be on for 2 hours before discontinuing

Using oxygen for “flow” for patient without hypoxia

Babies need to be NPO if RR>60

Patient must be admitted if needed 2 doses of racemic epi for croup

Brain & Guts

• Why routinely repeat abdominal Xray after a bowel cleanout for constipation?

• Why start ppx anti-epileptic medications after brain injury when child had no seizures post-injury? How to weight the risk of medications vs seizure risk?
Bugs

• Why repeat blood culture in patients with bacteremia without central line who are afebrile?
• Why repeat urine culture in afebrile patient before obtaining VCUG?
• Why use abx solution for acute conjunctivitis?

Lots of questions
NSAIDs and delayed bone-healing

*Are the concerns warranted?*

Bethany Woomer, MD
Pediatric Hospital Medicine Fellow
UCSF, Department of Pediatrics

July 21, 2017

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**DOGMA**

NSAIDs should not be used for perioperative pain control in orthopedic procedures due to delayed bone-healing
Why do I care?

Impact

- Better pain control
- Decreased opioid use
Why so much confusion?

Effects of NSAIDs on bone healing

- **Purpose:** evaluate the quality of the current literature
- **Methods:**
  - 12 clinical articles, 24 literature reviews
  - Coleman Methodology Score
- **Findings**
  - No negative effects = higher quality studies
  - Negative effects = lower quality studies
  - 3 RCT's = no negative effects

*Nonsteroidal Anti-Inflammatory Drugs and Bone-Healing: A Systematic Review of Research Quality.*

Marquez-Lane A¹, Hutchinson ID, Nuñez F Jr, Smith TL, Miller AN.
“Current literature on the effect of NSAID exposure on fracture healing is inconsistent and remains controversial”


Ketorolac and Bone Healing

- Two studies by Kay RM, et. al
  - Retrospective of osteotomy surgeries
  - Retrospective of operative fracture repair
- Findings:
  Perioperative ketorolac use in operative fracture care does not increase the risk of infection, wound healing, or delayed union

Retrospective Cohort Study (808 patients)

- **Purpose:** Does ibuprofen exposure increase risk of delayed bone healing
- **Methods:**
  - Scaphoid and fifth metatarsus fractures
  - Long bone fractures
  - Primary outcome: nonunion, delayed union, re-displacement
- **Findings:**
  - NSAIDs ≠ effect on bone healing

Summary/Conclusions

Pediatric Orthopedic literature consensus

➢ NSAIDs DO NOT affect bone-healing

**Future research:**

- RCT’s to categorize NSAID use:
  - Type
  - Dosing
  - Timing
  - Duration
Ibuprofen use in Tonsillectomy

Randomized Control Trial

- Published in Pediatrics, February 2015
- Purpose: Safety and efficacy of morphine and ibuprofen for post-tonsillectomy analgesia
- Methods:
  - 91 children, randomized to ibuprofen or morphine
- Findings:
  - No difference in post-tonsillar hemorrhage rates
  - Increased desaturations with morphine


Ketorolac and Bleeding

- Pediatric Neurosurgical patients
  - Retrospective review, 1451 children
  - Short term ketorolac (<72 hrs)
  - No increased bleeding on post-op imaging
- Scoliosis surgery
  - Retrospective review, 208 children
  - No difference in transfusion or re-operation

Contact precautions prevent infections
Our protocol: Perform hand hygiene. Don gown and mask. Hands are now contaminated and will contaminate gloves. Perform hand hygiene. Don gloves. Open door (contaminating gloves). Remove gloves, perform hand hygiene, don new gloves from inside the room. If you touch anything in the room, immediately remove gloves, perform hand hygiene, don new gloves. If you have a dirty thought, Remove gown, mask, gloves, perform hand hygiene, don new gloves, exit the room, perform hand hygiene, don new gown and mask, perform hand hygiene, don gloves, open the door, remove gloves, perform hand hygiene, don new gloves, tell the other team members you thought you brushed up against the bed so they don’t know you were having dirty thoughts…

REAL LISTSERV POST (PARAPHRASED)

Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals: 2014 Update (from 2007). Additionally many states have laws mandating surveillance

Written by SHEA, IDSA, AHA, APIC, The Joint Commission (Healthcare Infection Control Practices Advisory Committee and the Centers for Disease Control and Prevention also advise CP for infection/colonization with MDRO’s in general)

Note this affects 25% of patients and with longer LOS, >60% of patients may have CP
Institute basic practices
- Conduct an MRSA risk assessment
- Educate healthcare personnel regarding MRSA
- Ensure compliance with hand hygiene recommendations
- Ensure proper cleaning and disinfection of equipment and environment
- Ensure compliance with contact precautions for MRSA-colonized and -infected patients
- Implement an MRSA monitoring program
  - Implement an MRSA line list
  - Implement a laboratory-based alert system so that healthcare personnel are immediately notified of new cases of MRSA
  - Implement an alert system that identifies readmitted or transferred MRSA-colonized or -infected patients

BASIC PRACTICES INCLUDE RECOMMENDATIONS WHERE THE POTENTIAL TO IMPACT HAI RISK CLEARLY OUTWEIGHS THE POTENTIAL FOR UNDESIRABLE EFFECTS.

RECONSIDERING CONTACT PRECAUTIONS FOR ENDEMIC METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS AND VANCOMYCIN-RESISTANT ENTEROCOCCUS

Morgan, DJ et al. Infection Control & Hospital Epidemiology October 2015, vol. 36, no. 10
IN CONTRAST TO UNCONTROLLED STUDIES, PROSPECTIVE TRIALS WITH CONTROL GROUPS LARGELY FAILED TO DEMONSTRATE A BENEFIT OF CP FOR MRSA AND THE LITERATURE HAS NOT IDENTIFIED A BENEFIT TO CP OVER STANDARD PRECAUTIONS IN ACUTE CARE SETTINGS FOR CONTROLLING THE SPREAD OF VRE


IN CONTRAST TO UNCONTROLLED STUDIES, PROSPECTIVE TRIALS WITH CONTROL GROUPS LARGELY FAILED TO DEMONSTRATE A BENEFIT OF CP FOR MRSA AND THE LITERATURE HAS NOT IDENTIFIED A BENEFIT TO CP OVER STANDARD PRECAUTIONS IN ACUTE CARE SETTINGS FOR CONTROLLING THE SPREAD OF VRE

- Fewer bedside visits and physical exams (which could decrease HAI!!!)
- Less bedside time
- Delayed admission from ER to inpatient (54 minutes)
- Delayed d/c (especially to SNF 6.6 days)
- Adverse event rates including preventable (conflicting data)
- Anxiety and depression (conflicting data)
- Pediatrics – no playroom/schoolroom

POTENTIAL HARMS
**A BETTER APPROACH**

Concentrate on horizontal interventions (e.g., hand hygiene)

CP for draining wounds, diarrhea in an incontinent patient

CP for high risk activities (changing wound dressing, bathing)
THE LEADERSHIP ALLIANCE CONVENED BY THE IHI, COMMITTED TO DELIVERING ON THE PROMISE OF THE “TRIPLE AIM” HAVE DEFINED, AND ARE CONTINUALLY REFINING, A SET OF “RADICAL REDESIGN” PRINCIPLES


One of the redesign principles is “Make It Easy.” This principle calls for the continual removal of administrative barriers that contribute little or no value to care, impede the work of clinicians, frustrate patients and families, and waste time and other resources.
DOGMA

All Hospitalized Children Should Have an Outpatient Follow up

“Follow-up PCP in 2-3 days”

Alan R. Schroeder, MD
Department of Pediatrics
Stanford University School of Medicine
Disclosures

None

Why this topic?

• Era of family-centered care, hospital→home transition, medical home, etc
• Era of high-value care, recognizing overdiagnosis
Hospital follow-up: what do we know?

Coller, *J Hosp Med* 2017:
- N=701 hospitalized patients (UCLA)
- 34% had PCP follow-up within 30 days
  - aOR for readmissions = 2.2 (1.1 – 4.5)
  - Phone calls not a good alternative per PCPs

Hospital follow-up: what do we know?

- 2415 medically complex discharges (Colorado Medicaid)
- Readmissions:
  - ↑ With early follow-up
  - ↓ With later (4-29 days) follow-up
Nursing home visits

- 36 home visits
- 147 problems identified
  - Family issues (27%)
  - Medications (24%)
  - DME (20%)
  - Unsafe home environment (20%)
  - Child’s health (9%)

Conclusion: Home visits helped identify and address post-discharge issues that occurred for discharged CMC.

Practical Implications: Hospitals should consider home visits when optimizing discharge care for CMC.

But...

- H20 trial [Auger et al, PAS 2017]
  - 1500 hospitalized children
  - Nurse-led home visit vs standard care
  - Increased 30 day utilization (ER, hospitalization, urgent care) in intervention arm (OR 1.33, 95% CI 1.004-1.76) on ITT analysis.
Bronchiolitis

- Prospective observational study at 5 hospitals affiliated with Stanford and Intermountain
- 198 subjects < 2 years
- **Aim 1**: assess the frequency and outcomes of scheduled outpatient follow-up visits after hospital discharge

### What are we recommending?

<table>
<thead>
<tr>
<th>Discharge follow-up plan</th>
<th>N (%)</th>
<th>Had clinic f/u visit?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Visit recommended, appointment made before d/c</td>
<td>34 (17)</td>
<td>87%</td>
</tr>
<tr>
<td>Visit recommended, family instructed to make appointment</td>
<td>128 (65)</td>
<td>68%</td>
</tr>
<tr>
<td>Visit recommended, no time range</td>
<td>4 (2)</td>
<td>0</td>
</tr>
<tr>
<td>Visit recommended only if worsening symptoms</td>
<td>16 (8)</td>
<td>33%</td>
</tr>
<tr>
<td>No follow-up plan noted</td>
<td>16 (8)</td>
<td>38%</td>
</tr>
</tbody>
</table>
Visit interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saw PCP</td>
<td>67%</td>
</tr>
<tr>
<td>Pulse Ox</td>
<td>83%</td>
</tr>
<tr>
<td>( +7% “Don’t know”)</td>
<td></td>
</tr>
<tr>
<td>CXR</td>
<td>1%</td>
</tr>
<tr>
<td>Breathing treatment</td>
<td>7%</td>
</tr>
<tr>
<td>Any new prescription</td>
<td>12%</td>
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<tr>
<td>Breathing treatment</td>
<td>7%</td>
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<tr>
<td>Steroids</td>
<td>2%</td>
</tr>
<tr>
<td>Abx</td>
<td>6%</td>
</tr>
<tr>
<td>Readmitted</td>
<td>2%</td>
</tr>
</tbody>
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Parental perceptions

- 95% agree/strongly agree that “Visit was a good use of my or my family’s time”
- Most useful aspect of visit
  - Reassurance (70%)
  - Education (14%)
  - New Rx (6%)
  - Treatments stopped (2%)
  - Don’t know (3%)
  - Other (5%)
- Very satisfied with care
So...

...is *satisfying* care synonymous with *good* care?

![Image](https://example.com/image.png)

Gimme some antibiotics for my cold, old man, or I will totally rip you a new one on Yelp.

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**False + mammograms**

- Most (98%) women still happy they got the test
- US women more likely to return for routine screening
  - European and Canadian women less likely

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Schwartz, *JAMA* 2004  
• More satisfied patients had higher costs, worse outcomes (n=52,000)

PCP perspective

• PCP’s feel devalued
• Utility of f/u visit should be diagnosis-dependent

PCP: “...we teach people 2-3 days, 2-3 days, 2-3 days. Croup is going to be better in 2-3 days. They don’t need to come back unless they’re sick again”
Closing thoughts

• Scheduled follow-up makes more sense if:
  • there are direct clinical questions that need face-to-face interactions to answer (e.g. can albuterol be weaned in an asthmatic?)
  • high complexity
  • adherence is a concern or needs reconnection with PCP (e.g. delayed IZ’s)
  • scheduling a follow-up appointment facilitates earlier discharge

• Might phone follow-up (by hospitalist and/or PCP) suffice?

Closing thoughts

• Patient/family/physician assessments of value of follow-up may not be a reliable indicator of true value
• Observational data examining the association between follow-up visits and outcomes should not be used to suggest causation