

# Mythbusting!

Ghost busters chase down ghosts, the  
MythBusters chases down bad medicine!



The Pediatric Urgent  
Care Conference



Sabah Iqbal, MD

# Financial Disclosures

- I have no financial disclosures

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# G+O

- To review imaging of children in the UC setting
- To evaluate the management of upper extremity buckle fractures
- To discuss the efficacy of viral testing
- To determine the best cough syrup
- To discuss the best antibiotics for AOM
- To review length of antibiotic treatment
- To determine best treatment after concussion

# Mythbusting: The tummy ache

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# Audience Question

## The tummy ache

• 7 year old girl presents with abdominal pain: she has no dysuria, fever, vomiting, or nausea, but hasn't stooled for 4 days. Mother reports that she thinks child is urinating more frequently than usual, but the urine dip is negative, and the mother requests an xray. Abdomen is soft with NABS, and some palpable stool in the LLQ.

### Do you need an abdominal xray?

1. Yes. 100%. I need an xray to make the diagnosis of constipation
2. Yes; I need to rule out mass and obstruction
3. Yes, because the family needs it for reassurance
4. Nope.

# The abdominal x-ray

- Diffuse abdominal pain without a surgical abdomen: **NO NEED** for an abdominal xray
  - 5% (PCP) versus 70% (ED)
  - Constipation is a clinical diagnosis
  - History plus PE plus DRE is diagnostic
  - Single radiograph of the abdomen is **1/3 the radiation of a head CT**
  - Kearney study: physician felt they didn't need the xray, but performed the xray to please the family
    - Need better shared medical decision making

• Kearney R, Edwards T, Braford M, Klein E. Emergency provider use of plain radiographs in the evaluation of pediatric constipation. *Pediatr Emerg Care.* 2019;35(9):624-629. DOI: 10.1097/PEC.0000000000001549

• Alnaim A A. Management Approach of Pediatric Constipation . *Cureus* 2021; 13(10): e19157. doi:10.7759/cureus.19157

# Mythbusting: The Chest Xray

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# Audience Question

## The wheezer-bronchiolitic-coughing toddler

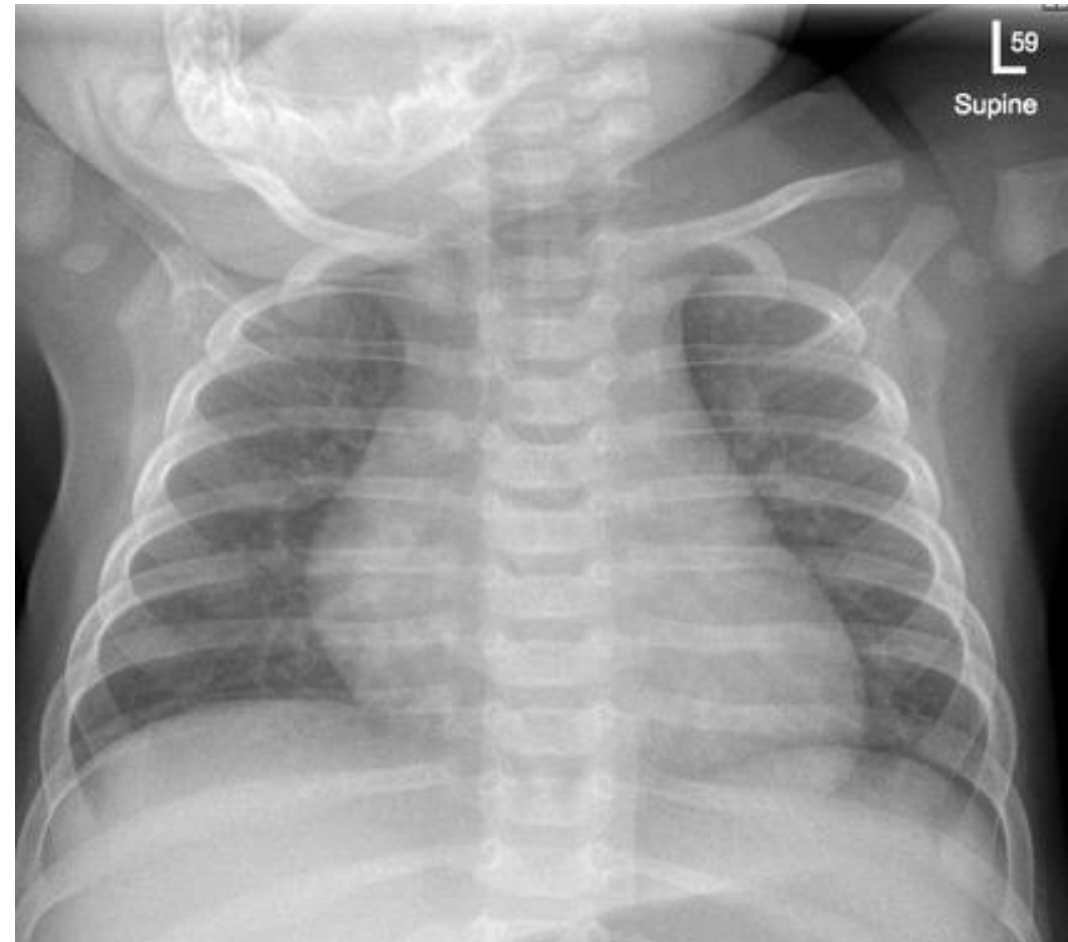
- 3 year old girl presents with first time wheeze; she has diffuse end-expiratory wheezing, cough, tachypnea, and retractions. She has had fevers to 101 at home. There is no family history of asthma. 7.5 mg Albuterol neb helps tremendously and now she has less distress and minimal wheeze.

### • What now?

1. CXR
2. Discharge with Albuterol
3. Discharge with a cough suppressant
4. Viral testing

# The chest x-ray

- No need for chest x-ray in bronchiolitis, croup, asthma, or first-time wheezer!
  - CXR leads to UNnecessary antibiotics
  - Hold CXR unless a child has hypoxia, focal findings, prolonged illness, or severe distress not responsive to therapy
- Trottier ED, Chan K, Allain D, Chauvin-Kimoff L. Managing an acute asthma exacerbation in children. Paediatr Child Health. 2021;26(7):438-439. DOI: 10.1093/pch/pxab058



# Mythbusting: Radiology cont'd

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# Audience Question

## The buckle fracture

- 9 year old boy fell onto his outstretched hand at recess and his mother brings him in because he has mild swelling of the wrist with pain on carrying his backpack.
- Xray shows a both-bone buckle fracture

### What's the plan?

1. Splint and follow up with ortho in 5 days for a cast
2. Splint and send to PMD
3. Apply a removeable wrist brace and follow up ortho in 5-7 days
4. Apply a removeable wrist brace and give instructions on return precautions



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# Buckle fracture management

- No need for casting: a removeable wrist splint is adequate
  - Less complications
  - Better patient and parent satisfaction
  - Better hygiene :)
  - Faster return to full function
  - Decreases radiation
  
- **American Medical Society for Sports Medicine**, March 29, 2022
- Little K, Godfrey J, et al. Increasing Brace Treatment for Pediatric Distal Radius Buckle Fracture Quality Improvement Methodology to Implement Evidence-based Medicine. Journal of Pediatric Orthopedics 2019 September; 39(8): e586-e591.



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# Buckle fracture management

- Ortho follow-up is NOT required!
  - Less missed days of work/school
  - Faster return to play
  - Cost savings
  
- **American Medical Society for Sports Medicine**, March 29, 2022
- Kuba MH. Izuka BH. One brace: one visit: Treatment of pediatric distal radius buckle fractures with a removeable wrist ace and no follow-up visit. J Pediatr Orthop. July 2018



# Mythbusting: Viral tests

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# Audience Question

## The viral test

- It's the 22nd patient of the shift and he is 22 month old ex-32 week preemie with coughing, runny nose, and fevers to 101. He has crackles, rhonchi, and mild retractions. There is a family history of wheezing, but he has never wheezed. There is flu and RSV circulating in the community.
- What test do you perform?
  - 1. Rapid RSV
  - 2. Rapid Flu/COVID
  - 3. COVID PCR
  - 4. Your local lab's mass-viral test. The more viruses, the better!



# Viral testing... not great or helpful

- PCR viral testing of children with resp illnesses made NO DIFFERENCE in care in PICU
- Did not decrease obtaining blood or urine testing
- Did not decrease need for f/u doctor visits
  - *Innis K, Hasson D, Bodilly L, et al. Do I need proof of the culprit? Decreasing respiratory viral testing in critically ill patients. Hosp Pediatr. 2021*
- Rapid viral testing doesn't reduce antibiotic usage
  - *Mattila S, Paalanne N, Honkila M, Pokka T, Tapiainen T. Effect of Point-of-Care Testing for Respiratory Pathogens on Antibiotic Use in Children: A Randomized Clinical Trial. JAMA Netw Open. 2022;5(6):e2216162. doi:10.1001/jamanetworkopen.2022*



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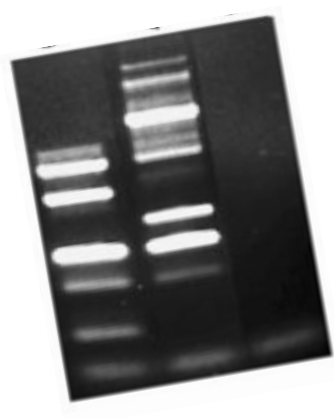
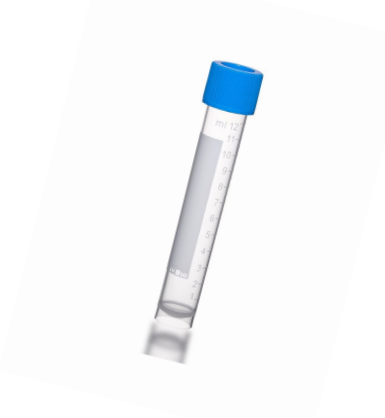


# Or is it good?

- Rapid influenza testing:

- Test for flu when pending admission or test for symptomatic children
- Improves outcomes: Tamiflu
- No testing of asymptomatic children

- American Society for Microbiology, Society for Clinical Laboratory Science and American Society for Clinical Pathology 11/22



- Our capacity to test has outpaced our knowledge of how to manage the test results!



# Mythbusting: OTC meds help!

# Audience Question

## OTC meds

• 3 year old boy presents with cough, congestion, and some low grade temperatures to Tmax 100. He has green/yellow/white nasal discharge. He's been sick for 5 days and attends daycare and his mother asks "Can you give him ANYTHING to help?"

• What's the best medication to recommend?

1. Zyrtec
2. Benadryl
3. Mucinex
4. Robitussin
5. Honey

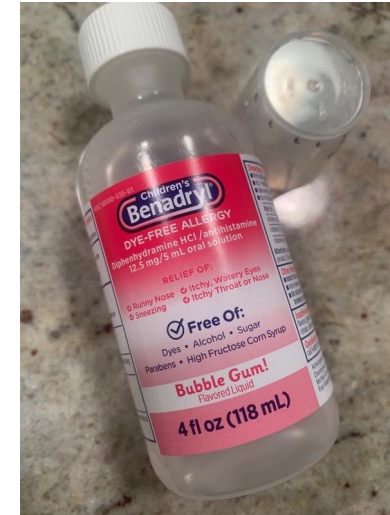


# Just Say NO

## Pediatric Fatalities Associated With Over-the-Counter Cough and Cold Medications

Laurie Seidel Halmo, MD,<sup>a,b</sup> George Sam Wang, MD,<sup>a,b</sup> Kate M. Reynolds, MPH,<sup>b</sup> Heather Delva-Clark, MA,<sup>b,c</sup> Malin Rapp-Olsson, MS,<sup>b</sup> William Banner, MD, PhD,<sup>d</sup> G. Randall Bond, MD,<sup>e</sup> Ralph E. Kauffman, MD,<sup>f</sup> Robert B. Palmer, PhD,<sup>b</sup> Ian M. Paul,<sup>g</sup> Jody L. Green, PhD,<sup>b,h</sup> Richard C. Dart, MD<sup>b</sup>

- Benadryl most common cause of fatality
- Under age 2
- Accidental overdose from multiple caregivers
- Accidental overdose from attempt to sedate a child
- Intentional overdose



## • Benzonatate Exposure Trends and Adverse Events: Nov 2022: Pediatrics

- Tessalon pearls
- Not approved under-10
- Fatality: MI/coma

# Honey (over the age of 1!)

- Decrease overall cough
- Decrease overnight cough
- Thin mucus
- Loosen cough



Honey for acute cough in children (Review)

Oduwole O, Udoh EE, Oyo-Ita A, Meremikwu MM



Cnn.com accessed 3/8/23



# Mythbusting: Ear pain

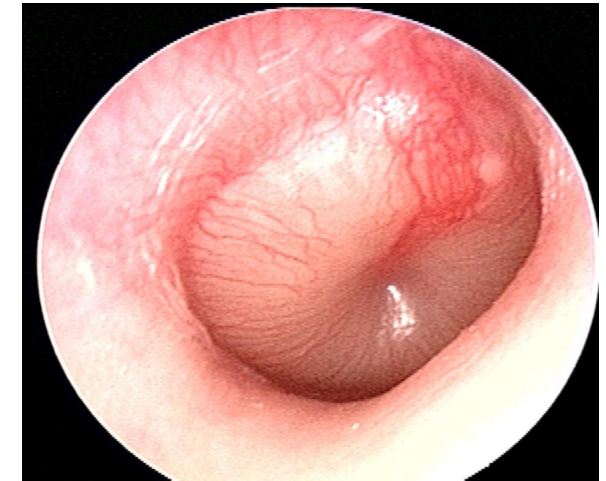
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# Audience Question

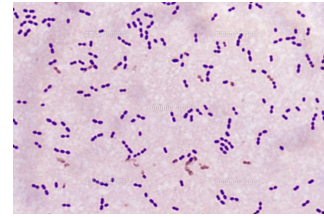
## The ear infection

- 6 year old girl presents at 11:45 for ear pain that woke her from sleep; she was crying at home and continues to hold her right ear. She has had some mild congestion and cough for a few days.
- What antibiotic should you use?
  1. Azithromycin
  2. Amoxicillin 10 days
  3. Amoxicillin 5 days
  4. Augmentin 10 days
  5. Augmentin 5 days
  6. Cefdinir

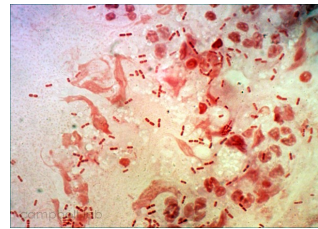
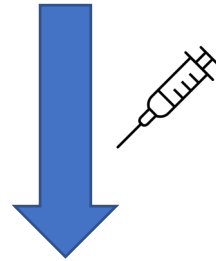


Department of Pediatrics: UW-Madison; 3/23

# Ear infection



*S. pneumoniae*

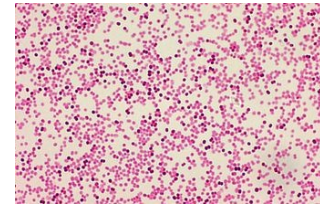


*H. influenzae*

50% produce beta lactamase



50% self-resolve



*M. cattarhalis*

90% produce beta lactamase



75% self-resolve

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# Amoxicillin!

## Amoxicillin Versus Other Antibiotic Agents for the Treatment of Acute Otitis Media in Children

Holly M. Frost, MD<sup>1,2,3</sup>, Destani Bizune, MPH<sup>4</sup>, Jeffrey S. Gerber, MD, PhD<sup>5</sup>, Adam L. Hersh, MD, PhD<sup>6</sup>, Lauri A. Hicks, DO<sup>4</sup>, and Sharon V. Tsay, MD<sup>4</sup>

- 1 million children being treated for AOM
  - 2.2 % treatment failure
  - 3.3 % recurrence
  - 93% had LONG courses of antibiotics
- 56.6% Amox (1.7% recurrence + failure)
- 13.5% Augmentin (11.3%)
- 20.6% Cefdinir (10%)
- 9.3% Azithromycin (9.8%)

**CONCLUSION: Amox is the best choice and short course is no different than long with regards to treatment failure or recurrence**

# Watchful waiting

- Over age 2
- No fever
- Less than 2 days of symptoms
- Control pain with Ibuprofen


Prescriber's Name, Degree  
License No. 0000000      DEA No. 00000000

**Your Practice/Clinic Name Here**  
Your Street Address • City, State, Zip Code  
E-mail/Web Site Address  
Phone: 000-000-0000 • Fax: 000-000-0000

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Client Name/ID \_\_\_\_\_  
Address \_\_\_\_\_  
Patient/Pet Name/ID \_\_\_\_\_ Age \_\_\_\_\_  
Date \_\_\_\_\_

**R<sub>x</sub>**



Label  
Refill - NR - 1 - 2 - 3 - 4 - PRN  
Dr. \_\_\_\_\_

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**KEEP OUT OF CHILDREN'S REACH • FOR VETERINARY USE ONLY**

# Mythbusting: Pneumonia treatment

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# Audience Question

## Pneumonia

- A 5 year old presents to the office with rising fevers for 3 days and coughing. On exam, she has focal crackles that don't clear with coughing. Her RR is normal and her oxygen saturation is 98%. She is drinking well and is playful when her fevers are down. You diagnose clinical pneumonia. You plan on starting Amoxicillim.
- How long should she be treated for?
  1. 3 days
  2. 5 days
  3. 7 days
  4. 10 days
  5. 14 days



WebMD accessed 3.11.23

# Length of Treatment

- 439 hospitalized children with PNA at JHU (2012-2018)
- Short course antibiotics: 38%
- Long course antibiotics: 62%
- Treatment failure: (2 ID attendings agreed)
  - Unexpected outpatient or ED visit within 30 days
  - New hospitalization within 30 days
  - Death within 30 days
- 4% treatment failure: no difference between groups!
  - 2 readmissions in the short group
  - 7 readmissions in the long
  - No deaths

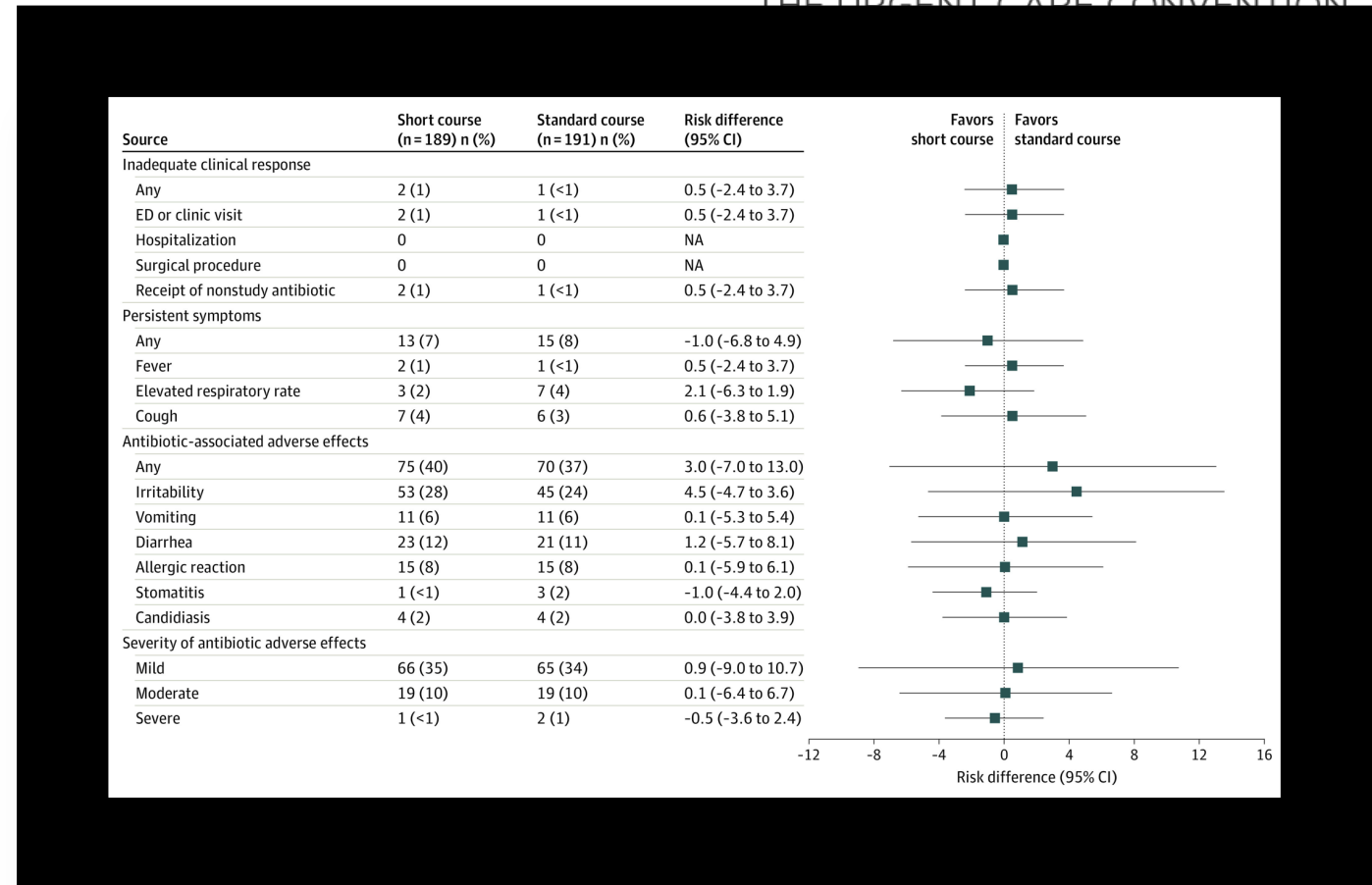
• The Association of Antibiotic Duration With Successful **Treatment** of Community-Acquired **Pneumonia** in Children. Same RG, Amoah J, Hsu AJ, Hersh AL, Sklansky DJ, Cosgrove SE, Tamma PD. J Pediatric Infect Dis Soc. **2021 Apr** 3;10(3):267-273. doi: 10.1093/jpids/piaa055.



Cleveland Clinic Health Essentials 3.12.23

# Length of Treatment

- 10 days antibx versus 5 days antibx+placebo
- RADAR
  - Response adjusted for duration of antibiotic risk
- 2022 Mar 1;176(3):253-261. Jama Pediatrics.
- Short- vs Standard-Course Outpatient Antibiotic Therapy for Community-Acquired Pneumonia in Children: The SCOUT-CAP Randomized Clinical Trial



# Length of Treatment

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**SCOUT CAP: 5 days is BETTER than 10 days**

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2022 Mar 1;176(3):253-261. Jama Pediatrics.

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Short- vs Standard-Course Outpatient Antibiotic Therapy for Community-Acquired Pneumonia in Children: The SCOUT-CAP Randomized Clinical Trial

- NO difference in treatment/improvement between 5 and 10 days
- Similar adverse effects and similar treatment failure

# Mythbusting: The concussion

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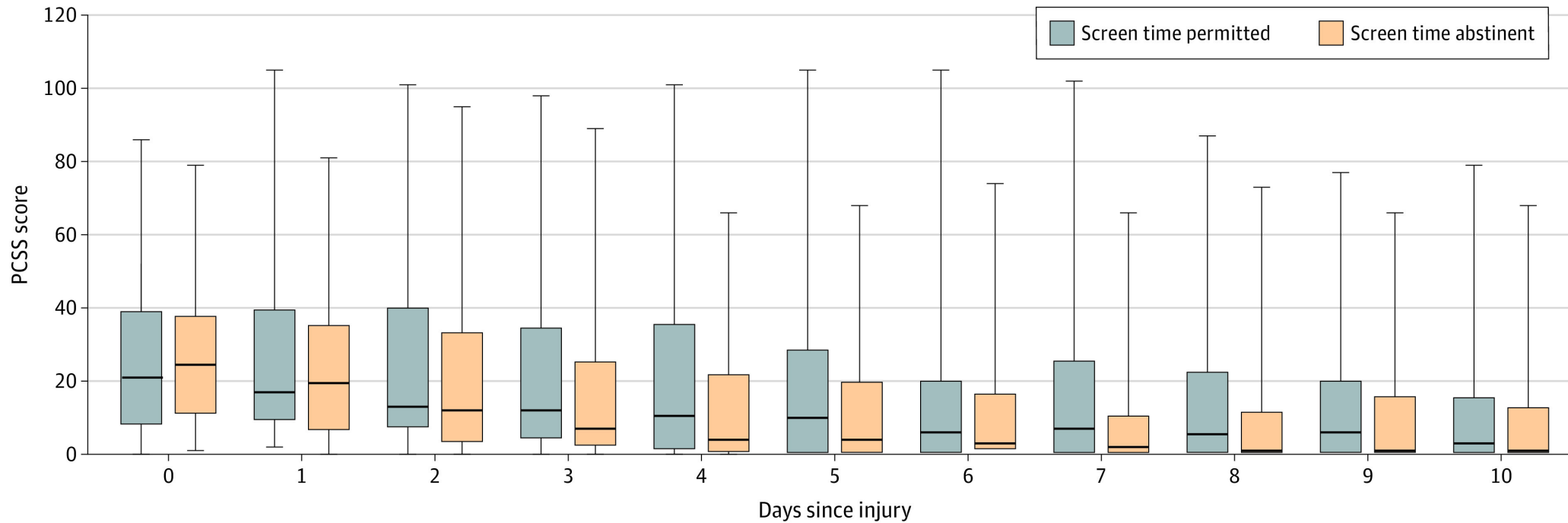
# Audience Question

## The concussion

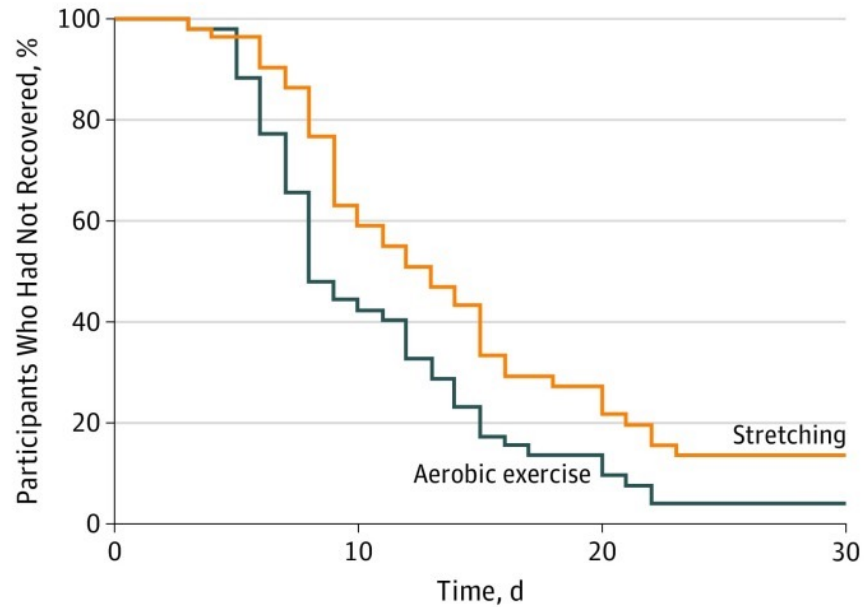
- 15 year old ice hockey player presents after a head injury on the ice; during practice where he wasn't wearing his helmet, another player ran into him and he fell and hit the back of his head on the ice. He had no LOC or V, but has a headache and feels nauseated, although he is drinking a gatorade in the exam room. His exam is normal and using the PECARN head injury criteria, you realize he does not require a head CT. You diagnose a concussion.
- What advice do you give?
  1. REST. Full home rest until he sees his pediatrician. No school. No sports. [Patient gets visibly upset]
  2. Activity as tolerated; he can return to all activities, including ice hockey. [The dad cheers]
  3. Limit screens for the next 4 days and no ice hockey this week. [The mother looks concerned]
  4. Follow up with your pediatrician tomorrow. [They're all confused]

# Concussion and Screen time

JAMA Pediatr. 2021 Nov; 175(11): 1–8. 2021 Sep 7. Effect of Screen Time on Recovery From Concussion: A Randomized Clinical Trial: Macnow et al.



# Concussion and exercise



| No. at risk      |    |    |    |   |
|------------------|----|----|----|---|
| Aerobic exercise | 52 | 23 | 7  | 2 |
| Stretching       | 51 | 32 | 14 | 7 |

- Early Subthreshold Aerobic Exercise for Sport-Related Concussion [JAMA Pediatr.](#) 2019 Apr; 173(4): 319–325. Leddy et al



## Less is More:

- Image gently
- Test minimally
- Treat minimally
- Refer judiciously
- Advise carefully

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- To claim CME, you must complete a separate survey available after the convention.

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