



Paramedic Chiefs
of Canada
Chefs Paramédics
du Canada



COVID-19 “Coronavirus” International Teleconference

We're taking a virtual role call today for those on the WebEx.
Please use the “Chat” window on the right to enter your:
Name, Agency Name, and # of people joining from your location.
Please send chat messages to “All Panelists”

In association with



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Facilitators:



Paramedic Chiefs
of Canada
Chefs Paramédics
du Canada



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In association with



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Paramedic Chiefs of Canada COVID-19 “Coronavirus” International Teleconference



Click the hand icon to virtually “raise” your hand and ask a question

Questions/Comments?

You can also use the chat box to send your questions to any of the groups provided in the dropdown list.

Send to: Host, Presenter & Panelists
Host
Presenter
Host & Presenter
Training, Education & Paramedics

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Agenda:

- ▶ Purpose & Rules of Engagement
- ▶ COVID-19 Situation Update
- ▶ Pediatric considerations with COVID-19
- ▶ Cross-Canada Quick Check-in
- ▶ Q&A (as time allows)



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Purpose:

- Update on COVID-19 situation
- Listen to guest speakers on select issues
- Receive FirstWatch SitRep on COVID-19 surveillance activity
- Share solutions regarding specific challenges posed by COVID-19

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Rules of Engagement

- ▶ Session will conclude after 60 minutes
- ▶ Session materials can be sent to eid@ParamedicChiefs.ca for posting on Paramedic Chiefs of Canada website
- ▶ Please keep your comments brief

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Coronavirus Situation Update




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Silvia Verdugo, MD, MPH
Medical Advisor
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Coronavirus EMS Scenarios



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COVID -19 UPDATES



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- PHAC & CDC Situation Summary
- WHO Report on WHO–China Joint Mission
- U.S. Expanded COVID–19 Testing in 6 Cities
- CDC/PHAC Travel Guidance = Higher Risk Countries
- Body Fluids that May Transmit SARS–CoV–2

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COVID–19 Updates



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- ▶ Canadian and U.S. Resources
URLs related to 2/25/20 Update
- ▶ U.S. NIOSH COVID–19 Website for Businesses
and Workers

Includes info for Public Safety, PSAPs and EMS

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Guest Speaker:



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Pat Frost, RN, PHN, MS, PNP

Vice Chair,

National Pediatric Disaster Coalition

Former EMS Director,

Contra Costa Health Service

nationalpedicoalition@gmail.com



EMS Pediatric Novel Virus Readiness

PATRICIA FROST RN, PHN, MS, PNP

VICE CHAIR NATIONAL PEDIATRIC DISASTER COALITION

FORMER EMS DIRECTOR CONTRA COSTA HEALTH SERVICE

1



Public Expectation: Children First

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Wuhan Quarantine Family Reaction “My Kids Are Trapped”

Separation

Anxiety

Fear

Reunification

Safety

Nutrition/Basic Needs

Source: <https://www.latimes.com/california/story/2020-01-31/san-diegans-wife-and-children-trapped-in-china-amid-coronavirus-outbreak>



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FIRST WATCH  WHO WE ARE WHAT WE DO PRODUCTS ▾

and Handouts

Coronavirus Webinar with
Paramedic Chiefs of Canada on
Monday, February 3rd, 2020 |
Recording and Handouts

Coronavirus Webinar with Paramedic Chiefs of
Canada on Monday, February 3rd, 2020 |
Recording and Handouts



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PCC Webcast: 2019-nCoV “Coronavirus” – Emerging
Infectious Disease – Feb-3-2020

First Transport of Coronavirus Patient in U.S.

An Adult...Not Very
Sick...Transported to
Hospital for
Evaluation/Testing...Lots
of time...Physician online
consultation

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What if the First Transport Was a Toddler in Respiratory Distress?

How would destination decisions change?

Transport with or without parent?

Mask or no mask?

Do you have pedi equipment?

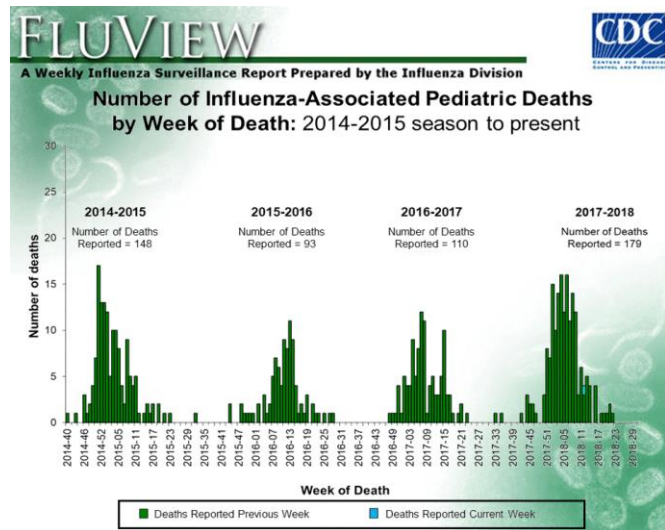
Interventions: Yes/No?

What if the child deteriorates in route? Do you break PPE?



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More Children Die of the Flu Every Year... A Vaccine Preventable Illness



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COVID-19 Incidence In Children
Low Risk does NOT mean No Risk

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Lean In: Pediatric Emerging Pathogens

- Requires pre-planning with field and front-line facilities
- Coordination with Public Health/CDC
- Destination Triage for pediatric patient
- Referral and transport process
- Parent/caregiver issues – PPE, accompanying during transport, etc.

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*Pandemics
are EMS and
Health
System
Marathons*

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1 in 4
 persons
 in the U.S.
 is a child

Children are more vulnerable in emergencies

- Because they breathe in more air for their size than adults, children absorb harmful materials from the air more readily. 
- Because they spend more time outside, are lower to the ground, and they put their hands in their mouths more often than do adults. 
- Because they may not be able to communicate their symptoms or feelings. 
- Because they need vaccines, medicines, and specially designed equipment for emergency situations that are different from adults. 

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COVID-19 and Children

Insufficient Data to Determine Pediatric Impact

JAMA February 14, 2020: *Novel Coronavirus Infection in Hospitalized Infants Under 1 Year of Age in China* [Min Wei, MD¹](#); [Jingping Yuan, MD, PhD¹](#); [Yu Liu, PhD²](#); et al

- 9 infected infants described
- All required hospitalization, mild disease, no severe complications, no deaths
- Age range: 1 to 11 months
- All had at least one infected family member
 - Time between admission and diagnosis: 1-3 days
 - No known transmission via breast milk
 - Symptoms: fever (38.8 peak), runny nose, cough, sputum
 - One infant asymptomatic with +COVID-19 test
 - Infants < 1 year cannot wear masks
- Recommendations: Since infants <1 cannot wear masks adult caretakers need to wear masks, wash hands, before and after close contact, sterilize infant toys and food containers
- Other reports from WHO and CDC to date:
 - No deaths reported in children <9 years old
 - Death Rate 0.2% age 10-19 years old
 - Children with co-morbidities are anticipated to have an increased risk of serious illness

<https://jamanetwork.com/journals/jama/fullarticle/2762028>

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Kids and Hygiene A Special Challenge



Congregate in groups

- Childcare/schools

Shed more more virus

- Higher respiratory/metabolic rates

Always touching something

- Lots of secretions
- Contaminated surfaces

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Children Cannot Self Protect

- May require 1:1 supervision
- Adversely affected by separation & forced isolation
- Adults responsible for Hygiene & Safety Measures



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The Nation's Children's Hospitals Regional Resources

Most Pediatric Tertiary Centers are > 50 miles away



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Day to Day

Children, Hospitals & EMS

Low Frequency High Risk

US Hospitals & EMS	Pediatric Contact
Non-children's hospitals ED	> 80% of all children in ED's
75% Hospital see	< 20 children/day
50% Hospitals see	< 10 children/day
Remote Hospitals see	< 2 children/day
Percent of total ED volume	18-27%
Pedi ED volume admitted	<10% (90% treat and release)
Average Length of Stay	3.5 days (children's hospital)
911 Calls and Transports	< 5-10% of all calls
EMS Pediatric MCI Plan	13% report plan

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EMS System Assets and Limitations

Disaster = Supply vs Demand Mismatch

California's EMS System includes:

- 33 Local EMS Agencies
- 64,046 Certified Emergency Medical Technicians
- 115 Certified Advanced Emergency Medical Technicians
- 23,528 Licensed Paramedics
- 1,165 Certified Epinephrine Lay-Persons
- 4,210 Ground Ambulances
- 137 EMS Aircraft
- Est. 5.4 Million Emergency Medical Services Calls Annually

California Child Population (2018)

Kiddata.org

	Total
Ages 0-2	1,455,750
Ages 3-5	1,518,243
Ages 6-10	2,589,263
Ages 11-13	1,580,511
Ages 14-17	2,117,251
Total for Ages 0-17	9,261,018

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Notice Evacuations and Quarantines Planned Moves



Ebola

Toronto EMS – Spring 2003

- 41 Stations
- 95 units/shift (180,000 transports/year)
- 850 medics
- Over 400 medics quarantined for unprotected SARS exposures
- 4 actually infected
- Crippled 911 system

What We Know About Pandemic EMS System Impacts

Early SARS
A No Notice Event

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Inpatient Capacity at Children’s Hospitals during Pandemic (H1N1) 2009 Outbreak, United States

Marion R. Sills, Matthew Hall, Evan S. Fieldston, Paul D. Hain, Harold K. Simon, Thomas V. Brogan, Daniel B. Fagbuyi, Michael B. Mundorff, and Samir S. Shah

- Median ED occupancy 132%
- 95% Inpatient occupancy
- Children disproportionately affected
 - 371 confirmed pediatric deaths
- < 1 additional admission per 10 inpatient beds would have caused hospitals to reach 100% capacity.

M. Sills et.al., Emerging Infections Diseases , Sept 2011
CDC MMWR Sept 16,2011

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NDMS Critical Care Air Transport Patient Movement Feb 7th, 2020

**Pandemic Patient
Movement
Reduce Unnecessary
Exposure**

US Coronavirus Evacuation
Wuhan to Omaha

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The Mission:
Slow the Spread
Coordinated
Response
ESSENTIAL !



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Leading Scientist PhD Student Media Expert Karen on Facebook

Situation Awareness Required
RELIABLE Sources and Misinformation

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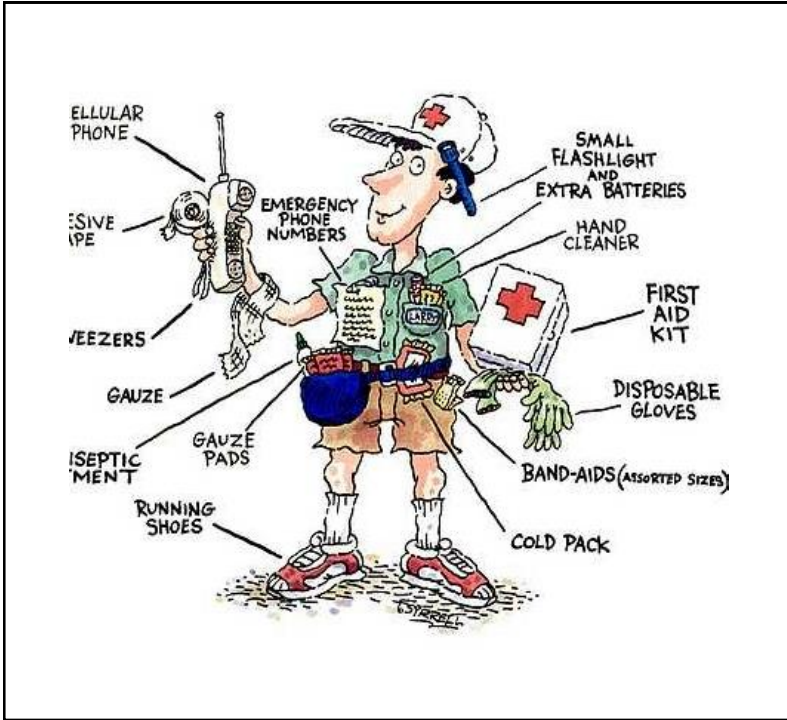
Where Do You Start?

"All Emergency Planning Is LOCAL"

Dr. Jeffrey Upperman
CHLA National Disaster Center
National Advisory Committee for Children and Disasters

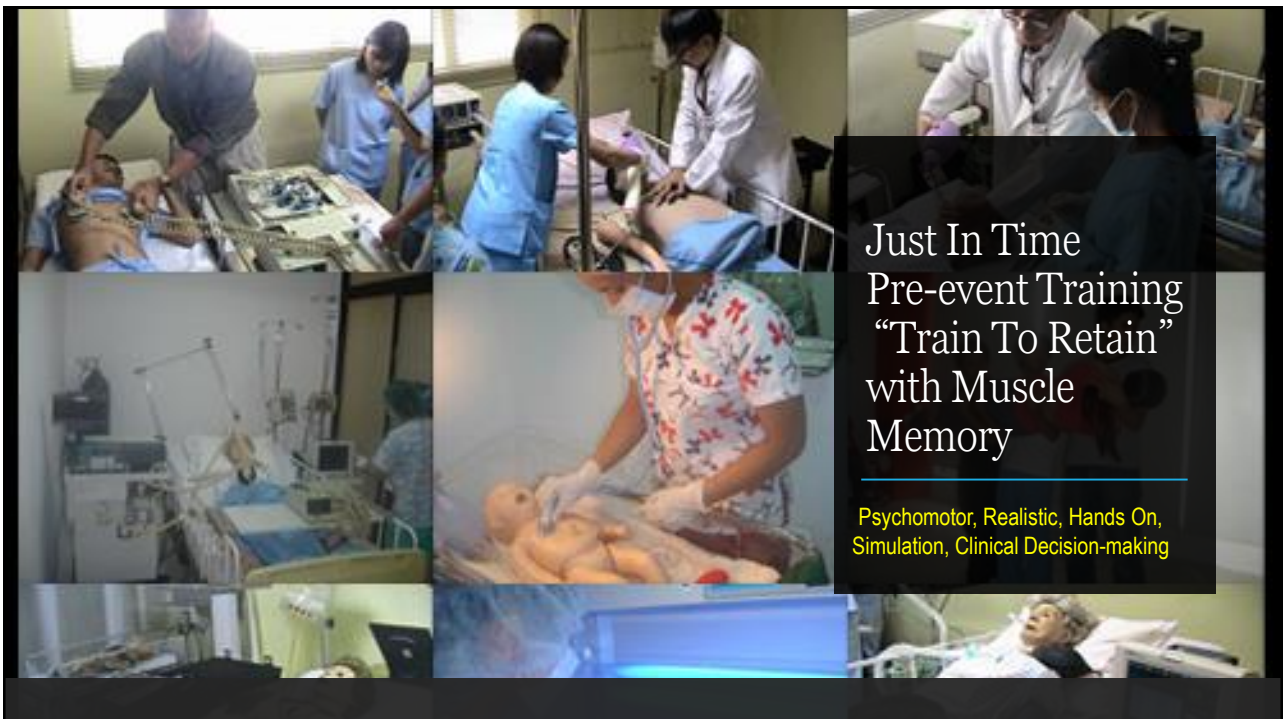


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Personal and Family Readiness

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Just In Time Pre-event Training "Train To Retain" with Muscle Memory

Psychomotor, Realistic, Hands On, Simulation, Clinical Decision-making

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The infographic features a central illustration of a young boy holding a soccer ball. Surrounding him are seven circular icons, each with a label and a corresponding visual representation:

- Immature blood/brain barrier:** A circular diagram showing a cross-section of a blood vessel with a porous, incomplete barrier between the blood and the brain tissue.
- Higher respiratory rates:** An illustration of human lungs with arrows indicating air flow.
- Larger body surface area:** A line graph with 'BSA' on the y-axis and 'Age' on the x-axis, showing a downward-sloping curve.
- Thinner skin:** A cross-sectional diagram of skin showing a thin layer with arrows pointing inward, indicating penetration.
- Rapidly dividing cells:** A circular diagram showing a cluster of cells with arrows indicating cell division.
- Higher metabolic rate:** A line graph with 'MR' on the y-axis and 'Age' on the x-axis, showing a downward-sloping curve.
- Immature immune system:** A circular diagram showing a cell with arrows pointing outward, representing an immature immune response.

Pediatric “Must Know” Differences *Exceptional Assessment Skills Matter*

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*Children speak
with their bodies*

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Pediatric Early Warning Score (PEWS)

<https://pediatrics.aappublications.org/content/132/4/e841>

Pediatric Early Warning Score Card

	3	2	1	0	Score
Behavior	<ul style="list-style-type: none"> Lethargic, confused, or Reduced pain response 	<ul style="list-style-type: none"> Irritable or agitated and not consolable 	<ul style="list-style-type: none"> Sleeping or Irritable and consolable 	<ul style="list-style-type: none"> Playing Appropriate for patient 	
Cardiovascular	<ul style="list-style-type: none"> Grey or CRT ≥ 5 or Tachycardia 30 above or Bradycardia for age 	<ul style="list-style-type: none"> CRT 4 seconds or Tachycardia of 20 above normal parameters 	<ul style="list-style-type: none"> Pale or CRT 3 seconds 	<ul style="list-style-type: none"> Pink, CRT 1-2 seconds 	
Respiratory	<ul style="list-style-type: none"> 5 below normal with retractions and/or $\geq 50\%$ $\text{FI}02$ 	<ul style="list-style-type: none"> >20 above normal Using accessory muscles or 40%-49% $\text{FI}02$ or ≥ 3 LPM 	<ul style="list-style-type: none"> >10 above normal Using accessory muscles or 24-40% $\text{FI}02$ or ≥ 2 LPM Any initiation of $\text{O}2$ 	<ul style="list-style-type: none"> WNL for age No retractions 	
* Add 2 points for frequent interventions (suction, positioning, $\text{O}2$ changes) or multiple IV attempts.					
TOTAL					

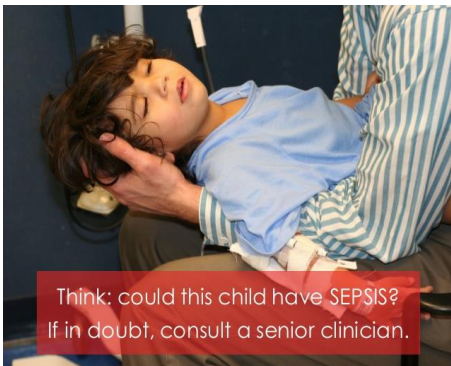
** Parental concern should be an automatic call to the Rapid Response Team.

Score ≥ 7 Assmt. every 30 mins. • Score 6 Assmt. every 1 hour. • Score 5 Assmt. every 1-2 hours. • Score 0-4 Assmt. every 4 hours.

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SEPSIS ALLIANCE
Suspect Sepsis. Save Lives.



Think: could this child have SEPSIS?
If in doubt, consult a senior clinician.

<https://images.app.goo.gl/mUvLQf4cglWwRvq5>

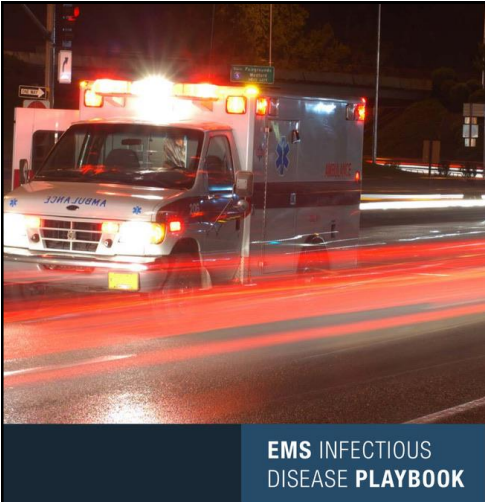
Sepsis: Pediatric First Response training module & companion video, visit <https://www.sepsis.org/trainingmodule/sepsis-pediatric-first-response/>.

Sepsis Alliance and NAEMT Publish Results of Survey on Pediatric Sepsis

KEY Findings

- Ø ONLY 41% stated "very confident" in the recognition of signs and symptoms of sepsis.
- Ø Only 39% could correctly identify all 4 early signs of sepsis
 - Ø Fever, tachycardia, tachypnea and altered mental status.

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EMS INFECTIOUS
DISEASE PLAYBOOK

Pediatric Issues

Fear of caregivers in high level PPE
 Caregiver accompaniment guidance
 Exposure risk/Intervention benefit
 Comfort objects
 Vigilance for septic shock/respiratory failure
 Pedi isopods risk vs benefit
 Pedi size surgical masks: if tolerated



ASPR
 ASSISTANT SECRETARY FOR
 PREPAREDNESS AND RESPONSE



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“The Change
 Begins with You”

*Pediatric
 Emergency Care
 Champions*



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Network With Pediatric
Coalitions

National Pediatric Disaster
Coalition
<http://www.npdcoalition.org>

Twitter @npdcoalition



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Disaster Research Shows...

*How "Well" A Community
"Recovers" Is Measured
By What Happens
Their Children*



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Reliable Pediatric Intelligence & Information

CDC intelligence: <https://www.cdc.gov/coronavirus/2019-nCoV/index.html>

World Health Organization: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

Redbook Online:

https://redbook.solutions.aap.org/selfserve/sspage.aspx?selfservecontentid=rbo_outbreaks_page_3

American Academy of Pediatrics: <https://www.healthychildren.org/English/health-issues/conditions/chest-lungs/Pages/2019-Novel-Coronavirus.aspx>

AAP News: <https://www.aappublications.org/news/2020/01/28/coronavirus>

ASPR/TRACIE EMS Infectious Disease Playbook: <https://www.ems.gov/pdf/ASPR-EMS-Infectious-Disease-Playbook-June-2017.pdf>



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FirstWatch SitRep:

Todd Stout



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- Surveillance in place
- 34 triggers for symptoms and travel
- 2 geofence triggers for evacuation locations
- Compliance Triggers
- “Affected Areas” is changing
- Other information to share
- [Sign up for alerts at www.firstwatch.net/hi](http://www.firstwatch.net/hi)

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Cross-Canada *Quick* Check-in

- Name
- Organization
- Province
- Challenges, Lessons Learned, Best Practices that are new or different from that already shared?
- (If you have more information than can be quickly shared within our remaining time, please consider emailing it to eid@paramedicchiefs.ca for sharing.)

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International Academies of Emergency Dispatch

Q&A and Thank You

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