



ANNUAL REPORT

Translating Emergency
Knowledge for Kids (TREKK)

2021/2022



Annual Report TREKK

2021/2022

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About TREKK

Most acutely ill and injured children in Canada are managed within emergency departments that are not part of a children’s hospital. Difficulties in getting the right resources and training have been cited as barriers to providing the best possible care in these settings. This has resulted in variable levels of emergency care for children within Canada. TREKK launched in 2011 as a knowledge mobilization network through the Government of Canada’s Networks of Centres of Excellence Knowledge Mobilization Initiative to address these critical knowledge gaps. We are a not-for-profit network that aims to improve emergency care for children across Canada.



Learn more about us at trekk.ca

Message from our Leadership Team

2021/2022 was another unpredictable time as we headed into the second year of the COVID-19 pandemic. COVID continued to change the way we lived our day to day lives and created new challenges to navigate. TREKK worked hard to provide relevant tools and resources to assist with COVID related illnesses and to keep resources aligned with the most up to date research available. Families and parents turned to trusted organizations like TREKK for important healthcare information via our website and app, viewing our YouTube videos over 95,000 times throughout 2021 and early 2022.

The TREKK team continued to grow, welcoming several new staff members to our administration team as well as three new members to our Board of Directors. Through the hard work of our staff as well as our

countless committee members and content experts, who selflessly donate their time and expertise, TREKK was able to create or update 10 resources and tools. We also spent the year growing and strengthening our partnership with organizations such as Emergency Medical Services for Children Innovation & Improvement Center (EIIC) in the United States and began work on our first ever co-created resource for U.S. and Canadian audiences.

As we move forward, TREKK will focus on continued support for families and healthcare professionals with our free, and easily accessible website as well as our app. We will continue to deliver evidence-based resources and help build connections to improve emergency care for children all across Canada and beyond.



Doug Sinclair
Board Chair



Terry Klassen
Director



Lisa Hartling
Co-Director



Mona Jabbour
Co-Director



David Johnson
Co-Director



Lisa Knisley
Executive Director



Shannon Scott
Co-Director

Who we are

Throughout 2021/2022, TREKK continued to grow and add new expertise and talent to our team. We are excited to have new voices and insights from all of our new staff and members. TREKK welcomed two new Board members with experience in marketing and communications to help us better spread the TREKK message far and wide and a third member who brings parent experience to our board. We were also able to expand current roles in our central administration team.

Administrative Team



Chelsea Bowkett
Project
Manager



Megan Bale-Nick
Knowledge
Broker



Mary-Anne Nurmi
Knowledge
Broker



Mateja Carevic
Knowledge
Broker



Savanna Lubimiv
Communications
Coordinator

Welcome to our newest Board Members



Carrie Costello



Naomi Liu



Karen Thomson

Board Members

Richard Fleet
Stephen Freedman
Terry Klassen
Peter Nickerson
Doug Sinclair
Dallas Smith
Sharon Straus

Did you know we have over 50+ committee members and content experts who contribute their expertise to the development of our resources?

[See the full list of our Content Advisors here](#)

[Knowledge Mobilization Committee Members](#)

[Steering Committee Members](#)

[Editorial Committee Members](#)

Welcome to new TREKK site representative:



Jen Turnbull
TREKK Representative,
Montreal Children’s Hospital

Education

TREKK held virtual education sessions throughout 2021 and into 2022 due to the COVID-19 pandemic. We were able to educate over 70 healthcare professionals from 3 different health regions in Manitoba. Education sessions are planned with

the emergency departments and we are grateful to all the regional nurse educators that helped make these events happen. Topics covered included fever, respiratory illnesses, and COVID-19.

TREKK Scholars & Fellows Program

A key part of achieving TREKK's goals is increasing our engagement of trainees (e.g. residents, graduate students) in resource development and implementation. In 2021 we launched our Scholars & Fellows program which is designed to support trainees, early career clinicians and professionals to become future leaders in TREKK and the pediatric emergency medicine community and to better understand knowledge mobilization strategies for improving pediatric emergency care. We welcomed two scholars to the program; Laurence Baril who is based in Québec and Sey Shwetz from Saskatchewan.



Laurence Baril



Sey Shwetz

TREKK Educator: Darcy Beer

MD FRCPC, Pediatric Emergency Physician, HSC Winnipeg Children's Hospital, Assistant Professor/Pediatrics/Pediatric Emergency Medicine, Medical Lead Pediatric Day Unit & Pediatric Procedural Sedation Service, Max Rady College of Medicine, Rady Faculty of Health Sciences, University of Manitoba



Darcy Beer is the Manitoba TREKK lead and has been working with TREKK for over 10 years on various committees as well as leading education sessions throughout Manitoba. Dr. Beer shares his knowledge in pediatric emergency medicine throughout the province and beyond focusing on topics like fever, sepsis, Covid-19 and general principles of pediatric trauma.

10+ pediatric emergency topics covered in education sessions

70+ healthcare professionals attended TREKK education sessions

6 trainees participating in the development of resources

"TREKK's efforts to educate with the TREKK platform are awesome. I have been showing all staff the information for a number of years now." - Stacey Boehem, RN, BN Emergency Educator

New Resources and Tools

for healthcare professionals

For both healthcare professionals and families alike, finding reliable information online can be a challenge. TREKK prides itself in being a trusted source of the most up to date emergency, healthcare information available. From our Algorithms that offer carefully curated, step by step instructions on how to treat a condition, to our parent and family videos and infographics, the TREKK website is home to thousands of resources.



Sarah Reid, TREKK Lead Editor
Children's Hospital of Eastern Ontario

Did you know all of our resources are peer reviewed by a national Editorial Committee made up of pediatric emergency physicians, nurses, pharmacists and researchers?

Thank you to all of our content advisors who contributed to new and updated resources in 2021/2022

Aerosol Generating Medical Procedures

Drs. K. Maki, G. Meckler

Anaphylaxis

Dr. W. Alqurashi

Cannabis Intoxication

Drs. K. Hogue, N. Desai

Concussion

Drs. R. Zemek, J. Dawson

Constipation

Drs. M. Eltorki, P. Landy

COVID-19

Drs. S. MacPhee, S. Reid, S. Freedman

Fractures

Dr. K. Boutis

Procedural Pain/Pain Treatment

Drs. S. Ali, A. Drendel, C. Chumpitazi, N. Poonai

Procedural Sedation

Drs. L. Evered, M. Bhatt

Suicidal Risk Assessment

Drs. M. Morissette, A. Newton, S. Freedman, L. Katz, S. Duffy, V. Feuer

View all resources for healthcare professionals on our website [here](#).

Did you know most of our resources are available in French? Head to [trekk.ca](#) to see more!

Constipation

BOTTOM LINE RECOMMENDATIONS

Constipation



The diagnosis of functional constipation (FC) requires a history of straining or pain with defecation, hard or large stools that may obstruct the toilet, infrequent bowel movements (BMs), retentive behaviors, and/or encopresis. Often, the chief complaint is colicky abdominal pain, which can mimic more sinister diagnoses that are missed such as appendicitis, intussusception and bowel obstruction.

- » A closely related disorder with similar symptoms is irritable bowel syndrome subtype with constipation (IBS-C).
- » The prevalence of FC in infants and toddlers is ~20%. IBS is also common, found in up to 15% of children.

Diagnosis

The Rome IV Criteria are validated clinical criteria used to diagnose functional gastrointestinal disorders such as FC and IBS-C. The Bristol Stool Chart may help young patients in determining consistency of stool.¹

ROME IV CRITERIA FOR FUNCTIONAL CONSTIPATION

Infants and Toddlers²

- » Must include one month of at least 2 of the following in infants/toddlers up to 4 years of age:
 1. Two or fewer defecations per week.
 2. History of excessive stool retention.
 3. History of painful or hard BMs.
 4. History of large-diameter stools.
 5. Presence of a large fecal mass in the rectum.
- » In toilet-trained children, the following additional criteria may be used:
 6. At least one episode per week of fecal incontinence.
 7. History of large-diameter stools that may obstruct the toilet.

Children and Adolescents²

- » Must include 2 or more of the following, occurring at least once per week for a minimum of one month with insufficient criteria for a diagnosis of irritable bowel syndrome:
 1. Two or fewer defecations in the toilet per week in a child of developmental age of at least 4 years.
 2. At least one episode of fecal incontinence per week.
 3. History of retentive posturing or excessive, purposeful stool retention.
 4. History of painful or hard BMs.
 5. Presence of a large fecal mass in the rectum.
 6. History of large diameter stools that can obstruct the toilet.

Red flags

ON HISTORY

- » Passage of meconium after 48 hours of age, early and severe constipation (less than 1 month of age), stunted growth, developmental delay, anorexia, ribbon stools, hematochezia, melena, bilious vomiting, and/or motor weakness.

ON PHYSICAL EXAM

- » Sacral anomalies, gluteal cleft deviation or abnormal position of anus, perianal fistula, absent anal or cremasteric reflex, anal scars, extreme fear during anal inspection, severe abdominal distention, decreased lower extremity strength/tone/reflexes, fever, and/or abnormal thyroid gland.

Investigations

- » Routine investigations are not recommended unless indicated by abnormalities on physical examination.³
- » Routine testing for celiac and/or hypothyroidism is not indicated.³
- » Abdominal radiographs should not be performed. Their use is associated with misdiagnosis and carries a risk radiation exposure.⁴

Functional constipation and urinary tract infections

- » There is an association of urinary tract infections (UTIs) and voiding dysfunction in children with constipation.⁵
- » Consider testing for UTI in children with constipation and fever without a source, even if symptoms of UTI are absent.⁵

Management

ACUTE CONSTIPATION WITH FECAL IMPACTION

Fecal disimpaction: Polyethylene glycol (PEG 3350) and enemas are equally effective.⁶ PEG 3350 is better tolerated and used by most providers as first line. Lactulose is used in infants less than 12 months.

Please visit our website at [trekk.ca](#) for more information.
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View the Constipation Bottom Line Recommendations [here](#). Thank you to content advisor Mo Eltorki

Cannabis Intoxication

BOTTOM LINE RECOMMENDATIONS

Cannabis Intoxication



Cannabis contains two well known components, Delta-9 Tetrahydrocannabinol (Δ -9-THC) and Cannabidiol (CBD). The psychoactive properties of cannabis are typically attributed to Δ -9-THC, which is present in variable concentrations dependent on the strain, and absorbed at variable rates dependent on the mode of ingestion. Acute intoxication is rare from cannabidiol (CBD) products unless given in excess or with high THC:CBD ratio. Since Canadian legalization of cannabis for adults, there has been an increasing rate of hospitalization for cannabis exposures in children 14 years and younger.¹

Presentation types

UNINTENTIONAL INGESTION (PREDOMINANTLY TODDLERS)

- » Consider this diagnosis in any previously healthy afebrile child <12 years with acute onset of the following symptoms without another clear cause¹:
 - Altered level of consciousness: lethargy (71%), coma (10%)
 - Neurological symptoms: hypotonia (63%), ataxia (14%), hyperactivity/irritability (11%), seizures* (9%), hypertonia (8%), tremor (5%)
 - *CBD alone has some anticonvulsant activity, but in overdose can cause seizures.
 - Vital sign changes: tachycardia (15%), hypoventilation (13%, with ~ 5% requiring intubation), bradycardia (4%), hypotension (4%), hypothermia (4%)
- » Delayed recognition of cannabis intoxication results in increased testing/interventions and longer ED length of stay.

INTENTIONAL AND/OR CHRONIC (PREDOMINANTLY ADOLESCENTS)

- » Common presentations after high doses include delirium, panic attacks, anxiety, psychosis, myoclonic jerking, nausea, hypertension, and/or worsening asthma symptoms.
- » Cannabinoid Hyperemesis Syndrome: Consider in chronic cannabis users with cyclic vomiting and abdominal pain (often relieved by hot showers) in absence of alternative diagnosis. May be associated with profound dehydration.

Formulations & Method of Delivery

Effects	Ingestion	Inhalation
Onset	30-90 minutes	Within minutes
Peak effect	2-3 hours	Within 15-30 minutes
Duration	Up to 12 hours in adults, longer in children (often 24 hours)	4 hours in adults (typically)

For more detailed information see: TREKK Cannabis Formulations & Method of Delivery and [CPS Cannabis Clinical Tools](#)

INGESTION

- » Cannabis is available in high concentration edible products which are commercially available or can be made at home; this makes the dose difficult to determine reliably. Commercially available edibles are required to state the dose of THC and/or CBD per unit or per total package.
- » Edibles are more easily accessible to young children who can ingest large doses unintentionally. This results in an association with more altered level of consciousness (LOC) and respiratory compromise.
- » Pharmaceutical cannabinoids have similar time to peak effects as edibles and can include nabilone and dronabinol (tablets) or Sativex® (rapid acting oral spray of THC and CBD).

INHALATION

- » Inhaled dose depends on depth of inhalation and duration of puffing/breath holding. Alternative methods of inhalation of highly concentrated cannabis (i.e., vaporizing, dabbing), can lead to very rapid effects.
- » Synthetic cannabinoids (e.g., "Spice", "K2") have similar symptoms of intoxication but are associated with more CNS depression or agitation and potentially life-threatening symptoms (eg., seizures, respiratory compromise).

Diagnostic Testing

- » If no clear history for cannabis intoxication is provided, perform work up for other causes of altered LOC.
- » With altered LOC strongly consider: POCT glucose, venous blood gas, lactate, and electrolytes. Depending on clinical circumstances, may also consider CBC, liver enzymes, blood cultures, ECG, and/or intracranial imaging.
- » **CAUTION:** Urine drug screen for the urine metabolite of Δ -9-THC can remain positive for weeks and does not necessarily reflect acute intoxication or rule out other possible co-ingestions/causes for altered LOC. There is a risk

Please visit our website at [trekk.ca](#) for more information.
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View the Cannabis Intoxication Bottom Line Recommendations [here](#). Thank you to content advisor Kaitlin Hogue

Concussion

BOTTOM LINE RECOMMENDATIONS

Concussion



Concussion is a traumatic brain injury¹ resulting from acceleration/deceleration forces from a direct blow to the head, face, neck or elsewhere on the body with an "impulsive" force transmitted to the head. Loss of consciousness and amnesia are not required to make the diagnosis. Tools in this document are found in the Living Guideline for Pediatric Concussion Care available at [pedconcussion.com](#).

Symptoms

- » Physical/somatic symptoms include headache, nausea, loss of balance, and/or dizziness.
- » Cognitive symptoms include feeling in a 'fog', difficulty concentrating/remembering, and/or confusion.
- » There can also be emotional (anxiety, depression) changes, behavioural issues, and/or sleep disturbance.

Initial Assessment²

HISTORY & PHYSICAL EXAMINATION¹

- » Record the acute event, symptoms (initial and ongoing), past medical history (concussions, migraine, ADHD/learning disorders), medications, social history.
- » Assess Glasgow Coma Scale (GCS), balance (Balance Error Scoring System), HEENT, neck, neurological exam including gait, Romberg's testing, vestibular-ocular exam. [Training video for the vestibular-ocular exam.]
- » Use [Living Guideline: PedsConcussion Physical Examination] and printable Medical Assessment Letter.

DETERMINE NEED FOR NEUROIMAGING

- » Order head CT if a clinically important intracranial injury is suspected using [PECARN](#) and/or [CATCH 2](#) rule.^{4,5}
- » Head CTs and MRIs are not used routinely as they are NORMAL in concussion.

DETERMINE RISK OF PERSISTENT POSTCONCUSSION SYMPTOMS (PPCS)⁶

- » Assess risk of symptoms lasting one month or longer using SP criteria (see Table 1 below) to aid in counselling.
- » Refer children at higher risk for persistent symptoms ([SP risk score](#) ≥ 6) to a medically supervised interdisciplinary concussion team for early intervention, if available. Otherwise, primary care provider should coordinate referrals (e.g., physiotherapy, occupational therapy, and/or mental health) for ongoing rehabilitation, as required.

Table 1: PPCS Risk Factors: 5-P risk score: Low (0-3), Moderate (4-6), High (9-12).

	PPCS Risk Factor	Age (years)	Sex	Duration of Prior Concussion	Personal History of Migraine	Answers Questions Slowly	Tandem Stance Errors	Headache	Sensitivity to Noise	Fatigue			
Categories	5-7	8-12	13-18	Male	Female	No Prior or <1 week	2+ weeks	4+ or unable to do test	0-3	4+ or unable to do test			
Points	0	1	2	0	2	0	1	0	1	0	1	0	2

Patient Disposition

- » Strongly consider admission or prolonged ED observation in patients with increasing or persistent confusion/irritability, worsening headache, persistent vomiting, ongoing seizures, focal neurologic symptoms/signs, prolonged altered level of consciousness, history of bleeding disorder, and/or multisystem injuries.
- » Discharge patients with normal mental status and improving symptoms, no risk factors indicating need for CT scan (or normal CT scan, if performed), no indications for prolonged hospital observation.
- » Discharge patients with written instructions on when to return to ED/primary care provider.

Treatment

- » Counsel physical and cognitive rest for 24-48 hours then gradual individualized return to physical/cognitive activities. Complete rest for more than 24-48 hours may contribute to prolonged recovery.⁷
- » Avoid contact sports/activities that risk repeat concussion until full return to school without concussion-related academic accommodations, AND medical clearance for full-contact sport and high-risk activities.
- » Most children recover within 2-4 weeks, although 30% may have persistent post-concussive symptoms after 1 month.⁸
- » Recommend medical follow-up 1-2 weeks following the acute injury or earlier if symptoms worsen. Initiating clinical care early (within 8 days) is associated with improved recovery times.⁷

Please visit our website at [trekk.ca](#) for more information.
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View the Concussion Bottom Line Recommendations [here](#). Thank you to content advisor Jennifer Dawson

New Resources and Tools

for parents and families

Keeping parents and families informed of the latest evidence and information when it comes to caring for children is top of mind for TREKK. We collaborate with multiple organizations, researchers and healthcare professionals across Canada to create useful and relevant resources that families can use to better care for kids.

Did you know our partners at [IWK Health](#) created 3 new parent tools covering hand-foot-mouth disease, procedural sedation and febrile seizure? All are offered in English, French, Arabic and Mi'kmaq. See the resources here on our [YouTube](#) channel.



TREKK was pleased to assist in the dissemination and promotion of a new parent video titled [What to Expect at the Emergency Department During the COVID-19 Pandemic](#). Visiting the emergency department can feel overwhelming, especially during the COVID-19 pandemic and this video helped parents and families feel more prepared for their visit.

In 2021, the video was entered in the [IHDCYH Talks Video](#) competition and won a special commendation prize.

What to expect at the emergency department (ED)



The Emergency Department (ED) is a place where people go for immediate care. Visiting the ED can be scary and overwhelming, especially when you don't know what to expect. We hope this infographic helps reduce stress and helps you prepare.

Drs. Shannon Scott and Lisa Hartling from Translating Evidence in Child Health to Enhance Outcomes ([ECHO](#)) and Alberta Research Centre for Health Evidence ([ARCHE](#)) have been working diligently alongside parent and family advisory groups to create resources for parents to help them better understand common childhood conditions. Dr. Hartling and Dr. Scott have led the development of five new [tools](#) in 2021/2022, including an asthma [video](#) and [infographic](#) as well as an [infographic](#) and [video](#) on anaphylaxis, and lastly, a concussion [infographic](#).

Learn more about their research and parent tools [here](#).



Shannon Scott



Lisa Hartling

Our parent videos on the TREKK YouTube channel were viewed over 95,000 times in 2021/2022

Check out the TREKK YouTube channel [here](#)

Collaborations

Collaborations are the heart of TREKK. We couldn’t do what we do without them and our network is strengthened by the many collaborations we have with healthcare providers, parents and families, researchers and organizations.

TREKK is working with the Emergency Medical Services for Children Innovation and Improvement Center (EIIC) to create new resources for emergency departments in both Canada and the United States. EIIC has a similar mandate to TREKK – to improve the health outcomes of children in emergency settings. By working together, we can leverage the expertise and experiences of parents, healthcare professionals and researchers within both countries and expand our reach. Together, we created a new Bottom Line Recommendation for Suicidal Risk Assessment, and updated resources for Status Epilepticus. New resources are coming soon for the Agitated Patient. Be the first to hear when they become available by following TREKK’s social media and sign up for our e-updates.



Dr. Corrie Chumpitazi
MD, MS, Knowledge Management
Domain Co-Lead



Marc Vazquez
MHA, MBA, PMP, Knowledge Management
Domain Project Manager



Dr. Marc Auerbach
MD, MSCi, Knowledge Management
Domain Co-Lead



Robin Goodman
MSN, RN, CPEN, Knowledge Management
Domain Project Manager



Emergency Medical Services for Children
Innovation and Improvement Center

TREKK collaborated with Dr. Quynh Doan to share the [MyHEARTSMAP](#) tool and mental health resources across Canada. Child and youth mental-health-related visits to the emergency department are on the rise. However, few tools exist to help identify concerns early and connect youth with the right mental healthcare. MyHEARTSMAP is a digital self-assessment tool that was developed to evaluate what services youth and families may need, depending on their self-assessment scoring. Infographics and videos for both parents and youth show how to use the tool and how it can help to direct them to appropriate services and resources. [Learn more about the MyHEARTSMAP program.](#)



Dr. Quynh Doan

Pediatric Status Epilepticus Algorithm

* in children over 1 month of age

Recognition of Status Epilepticus

An unresponsive patient with either one of the following has convulsive status epilepticus:

- Seizure >5 min and/or ongoing seizure on presentation to EMS/ED
- 2 or more seizures without full recovery of consciousness between seizures

Initial Management

- Initiate ABCs, cardiorespiratory and BP monitoring
- O₂ 10-15 L/min via non-rebreather mask
- Prioritize giving the first dose of benzodiazepine as early as possible, followed by checking blood glucose
- Monitor for respiratory depression, hypotension, arrhythmias
- Give acetaminophen 15 mg/kg/dose (MAX 650 mg) PR if febrile
- Consider other investigations:
 - Electrolytes, blood gas, calcium, CBC, serum glucose
 - Other: anticonvulsant drug levels, LFTs, blood & urine culture

Phase 1 5-15 min

Prehospital

- Give Midazolam IM/intranasal (IN) (see dosing table).
- Check blood glucose:
 - If blood glucose <3.3 mmol/L (<60 mg/dL): Treat with D25W 2 mL/kg/dose IV (MAX 100 mL/dose) OR D10W 5 mL/kg/dose IV (MAX 250 mL/dose).
- If still seizing after 5 minutes, give Midazolam second dose. MAX cumulative dose 10 mg in prehospital setting.

Emergency Department (ED)

- Give benzodiazepine if two doses not already given prior to ED arrival (see dosing table).
- Check blood glucose if not already done. Treat hypoglycemia as above. Reassess blood glucose in 5 minutes.
- Give second benzodiazepine dose for ongoing seizures 5 minutes after first dose. When IV/IO access available, switch to IV/IO route.

CAUTION: Do not give more than 2 doses of benzodiazepines.

Phase 2 15-20 min

Drug	Dose	Age	Comments/Cautions
Levetiracetam	60 mg/kg/dose IV/IO (MAX 3000 mg/dose) Infuse over 5 minutes	Any age	↓side effects/drug interactions, low risk of psychosis
Fosphenytoin	20 mg phenytoin equivalent (PE)/kg/dose IV/IO/IM (MAX 1000 mg PE/dose) Infuse over 10 minutes	Any age	↓BP, ↓HR, arrhythmia; avoid in toxicologic seizures; choose alternate drug if on phenytoin at home or consider partial loading dose of 10 mg PE/kg/dose
Valproic Acid	40 mg/kg/dose IV/IO (MAX 3000 mg/dose) Infuse over 10 minutes	≥2 years	In Canada, only available via Health Canada Special Access Program; caution in patients with liver dysfunction, mitochondrial disease, urea disorder, thrombocytopenia or unexpected developmental delay
Phenytoin	20 mg/kg/dose IV/IO (MAX 1000 mg/dose) Infuse over 20 minutes	Any age	↓BP, ↓HR, arrhythmia; avoid in toxicologic seizures; choose alternate drug if on phenytoin at home or consider partial loading dose of 10 mg/kg/dose; use only if Fosphenytoin not available
Phenobarbital	20 mg/kg/dose IV/IO (MAX 1000 mg/dose) Infuse over 20 minutes	<6 mos	Respiratory depression, especially in combination with benzodiazepines

1 Reassess ABCs, monitor for respiratory depression. If still seizing give one of these second-line agents:

1 Reassess ABCs, monitor for respiratory depression. If still seizing:

First Line Agents

No IV/IO	
Midazolam IM or IN	<13 kg: 0.2 mg/kg/dose 13-40 kg: 5 mg/dose >40 kg: 10 mg/dose MAX 10 mg/dose

IV/IO	
Lorazepam IV/IO	0.1 mg/kg/dose MAX 4 mg/dose
Midazolam IV/IO	0.1 mg/kg/dose MAX 10 mg/dose

Pediatric Referral Centre Discussion:

- Need for intubation vs. bag-mask ventilation; hypercapnia is common and resolves with seizure cessation and non-invasive respiratory support
- Additional work up including full septic work up, use of antibiotics/antivirals, brain imaging
- Persistent altered LOC possibly related to non-convulsive status epilepticus or severe underlying brain disorder
- Third line agent: infusion of midazolam, pentobarbital, propofol OR ketamine

EIIC
Emergency Medical Services for Children
Innovation and Improvement Center

trekk
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Knowledge for Kids

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View the Status Epilepticus Algorithm created by EIIC and TREKK [here](#)

New Research Projects

Knowledge to Action in Pediatric Emergency Care during the COVID-19 Pandemic

Through this **Canadian Institutes of Health Research (CIHR)** grant, TREKK is bringing world-leading child health researchers, parents, and emergency healthcare providers together to share the latest information on COVID-19 and its wider impacts. We will use this information to update and create new educational tools and resources so healthcare providers can quickly find and use the information they need when caring for children. Then we will test how useful these resources are for healthcare providers and if we need change them in any way. We will also ask parents and youth about what information is important for emergency healthcare providers to know. We will share these educational tools and resources with all emergency departments in Canada. We want to help emergency healthcare providers feel better prepared to give the best possible care to children during this pandemic, and ultimately improve emergency care for children across Canada.

**Read more about our
CIHR grant in this story
by UM Today**
[Read it here](#)

Pediatric Emergency Readiness

Led by Dr. Alex Aregbesola, this study is working with emergency departments across Manitoba to assess and improve their level of pediatric readiness. This will include improving access to TREKK tools and resources.

Learn more about the Manitoba Emergency Care Research for Kids group [here](#).

Helping to understand the long-term outcomes of COVID-19 in children

The main goal of **Pediatric Outcome imProvement through COordination of Research Networks (POPCORN)** is to establish a unified research structure that is able to comprehensively answer important child health questions, starting with COVID-19. POPCORN is made up of the leaders of all the large pediatric COVID-19 research groups, who will be supported by a coordinating centre along with teams of experts on how to collect, share, and analyse data across studies, and hospitals. Under the leadership of our Director, Dr. Terry Klassen, TREKK's knowledge mobilization and resource development infrastructure will support POPCORN's Knowledge Mobilization pillar.



Connect with us



TREKK regularly communicates with our over **3500+** followers on our social accounts



Our resources are downloaded not only in Canada but also in countries such as **the United States, Saudi Arabia, China, India and the United Kingdom**



Our website trekk.ca had over **37,400** visits in 2021/2022

Follow our social accounts @trekkca



Top downloaded resources in 2021/2022

5600+ **Diabetic Ketoacidosis**
downloads *Algorithm*

2950+ **Croup**
downloads *Bottom Line Recommendations*

2850+ **Fever**
downloads *Bottom Line Recommendations*

2320+ **Sepsis**
downloads *Algorithm*

2300+ **Anaphylaxis**
downloads *Bottom Line Recommendations*

2200+ **Acute Otitis Media**
downloads *Bottom Line Recommendations*

View all resources for healthcare professionals on our website [here](#).

Thank You

Thank you to our many generous supporters and collaborators

Alberta Children's Hospital Research Institute
Alberta Health Services
Alberta Research Centre for Health Evidence
Baylor College of Medicine
BC Children's Hospital
Canadian Association of Emergency Physicians
Canadian Pediatric Simulation Network
Centre Hospitalier Universitaire Sainte-Justine
Children's Hospital of Eastern Ontario
Children's Hospital of Eastern Ontario Research Institute
Cochrane Child Health
Emergency Medicine Cases
EMSC Innovation and Improvement Centre
George & Fay Yee Centre for Healthcare Innovation
Hôpital du Sacré-Cœur-de-Montréal
Hôpital Maisonneuve-Rosemont
HSC Winnipeg Children's Hospital
Huron Perth Health Alliance
Interlake Regional Health Authority
Izaak Walton Killam Health Centre
Janeway Children's Health
London Health Sciences Centre - Lawson Health Research Institute
Manitoba Métis Federation
Maternal Newborn, Child & Youth Network
McGill University Health Centre
McMaster Children's Hospital/University
Memorial University of Newfoundland/
Eastern Regional Health Authority
Manitoba Northern Health Region

Montreal Children's Hospital
National Emergency Nurses Association
Pediatric Emergency Research Canada
Pediatric Emergency Research Network
Perth Great War Memorial District Hospital
Peter Lougheed Centre
Phoenix Children's Hospital
Prairie Mountain Health
Queens University
Queensway Carleton Hospital
Saskatoon Regional Health Authority
Shared Health
Solutions for Kids in Pain
Smith Falls District Hospital
Southern Health
Stanton Territorial Hospital
Stollery Children's Hospital Foundation
Texas Children's Hospital
The Hospital for Sick Children
Translating Evidence in Child Health to Enhance Outcomes
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Translating Emergency Knowledge for Kids
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