# Why do Families attend Pediatric Emergency Departments for Ambulatory Care?

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## Introduction

**Background**
Pediatric emergency department (ED) visits in Switzerland are increasing[1,2], while availabilities of primary care providers (PCP) is suboptimal[3] and might further decrease[3,4] in the next years. A substantial proportion of ED visits are non-urgent and do not require hospitalization[5,6].

**Research question: Why do parents seek ambulatory care at pediatric EDs?**

**Objectives**
- To compare parental perceived urgency with medical perception on urgency
- To assess continuity of ambulatory care with PCP, including participation in well-child visits

## Key Message

- **Most ambulatory ED visits were non-urgent**
- **Main driver: parental concern**
- **ED utilization was independent from PCP enrollment**
- **Improved parental guidance and access to ambulatory care may reduce non-urgent ED visits**

## Methods & Group Description

### Recruitment process

- **Design: Cross sectional survey**
- **Where?** University Children's Hospital Zurich, City Hospital Zurich, Cantonal Hospital Winterthur
- **Who?** Children < 16 years residing in the canton of Zurich seeking ambulatory care in pediatric ED
- **Data Collection**: Semi-structured telephonic interviews
- **Classification of urgency** according to Australasian Triage Scale (1 – 3 considered urgent)
- **Recruitment:**
  - From prior Quality Assurance Study
  - Families contacted after ED consultation

### Group Description (n = 130)

| | | | |
|---|---|---|---|
| **Gender** | 50 % m (n =65) | | 50 % f (n = 65) |
| **Age (months)** | 65 ± 50.7 | | |
| **Known chronic condition** | N = 15 (11.5 %) | | |
| **Place of birth** | CH 91. 5 % (n =119) | | Abroad 8.5 % (n = 11) |
| **Place of residence** | Cities 61.5 % (n = 80) | Towns and suburbs 32.2 % (n = 42) | Rural areas 6.2 % (n = 8) |

Table 1 : Description of the study population

## Results

### PCP attachment

- Most families (96.9 %) have a pediatrician
- High satisfaction with PCP in overall evaluation (93.8 %)
- Markedly lower satisfaction regarding appointment availability (71.3 %)
- 90 % indicated regular attendance of well-child visits

### Parental Consultation Patterns

Who is your first medical contact if your child is ill (during opening hours vs. outside of opening hours)?

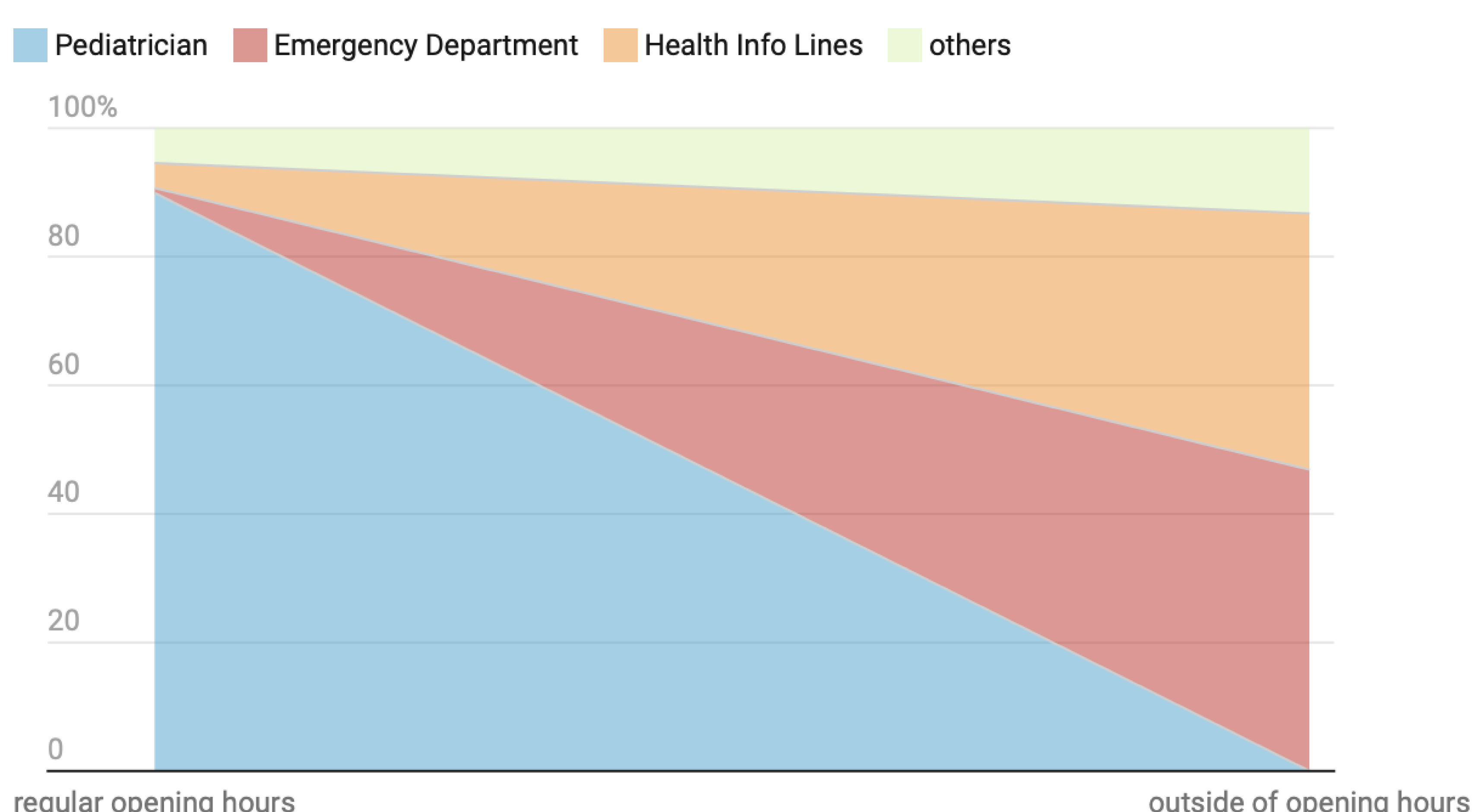


Figure 1: Parental preferred point of contact in case of Illness

- **PCP primary contact person** during opening hours (89.2 %)
- ED (46.2 %) and health info line (39.2 %) are the **main contact points outside of opening hours**
- 58.5 % of families reported having sought medical advice **before** visiting the ED

### Ambulatory ED Consultations

**Parents vs medical perception on urgency**

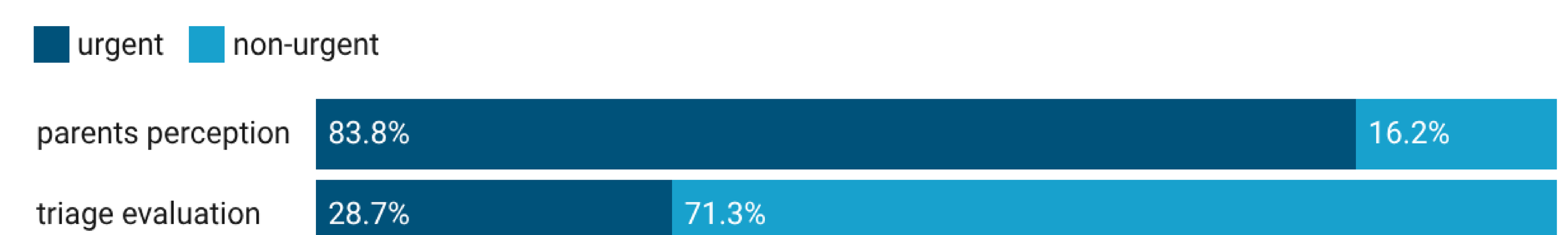


Figure 2: subjective perception of urgency

**Time of ED consultations**

| | |
|---|---|
| **Outside of regular opening hours** | **71.5%** |
| *Weekends* | *29.6%* |
| *Evening/nights* | *41.9%* |
| **Within regular opening hours** | **28.5%** |

Figure 3: Time of ED consultations

### Main Results

- ✓ **PCP remains the preferred point of contact for families**
- ✓ **High PCP enrolment and Well-Child Visit participation amongst Study Population**
- ✓ **Possible lack in short term PCP availability's**
- ✓ **Majority of ED consultation outside of regular opening hours**
- ✓ **Mismatch between parental perception and clinical assessment of urgency**
- ✓ **Large proportion of non urgent ED consultation**

## Discussion & Literature

- High ED use in **non urgent conditions** despite PCP enrolment and high parental satisfaction regarding PCPs
- **Marked discrepancy** between parental and medical perception of urgency
- **Possible explanations**
  - Limited parental health literacy
  - Structural contraints in outpatient pediatric care, particularly restricted availability

## Literature

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Hôpitaux Universitaires Genève

UNIVERSITÉ DE GENÈVE

# E-FAST: A Game-Changer in Rapid Diagnosis of Paediatric Splenic Injury

Mia Madeleine Lidén, Marine Grange, Isshak Mrabet Deraoui,
**Service d'Accueil et d'Urgence Pédiatriques (SAUP), Département de la Femme de l'Enfant et de l'Adolescent (DFEA), Hôpitaux Universitaires de Genève (HUG)**

Isolated splenic injury is the most common form of blunt abdominal trauma in children.[1] The patient's outcome depends critically on the speed and accuracy of diagnosis. Early integration of extended focused assessment with sonography for trauma (E-FAST) can be life-saving, even in clinically stable patients.

## Case subject: 11-year-old girl, excellent health, no comorbidities, no known medication

**15:30**

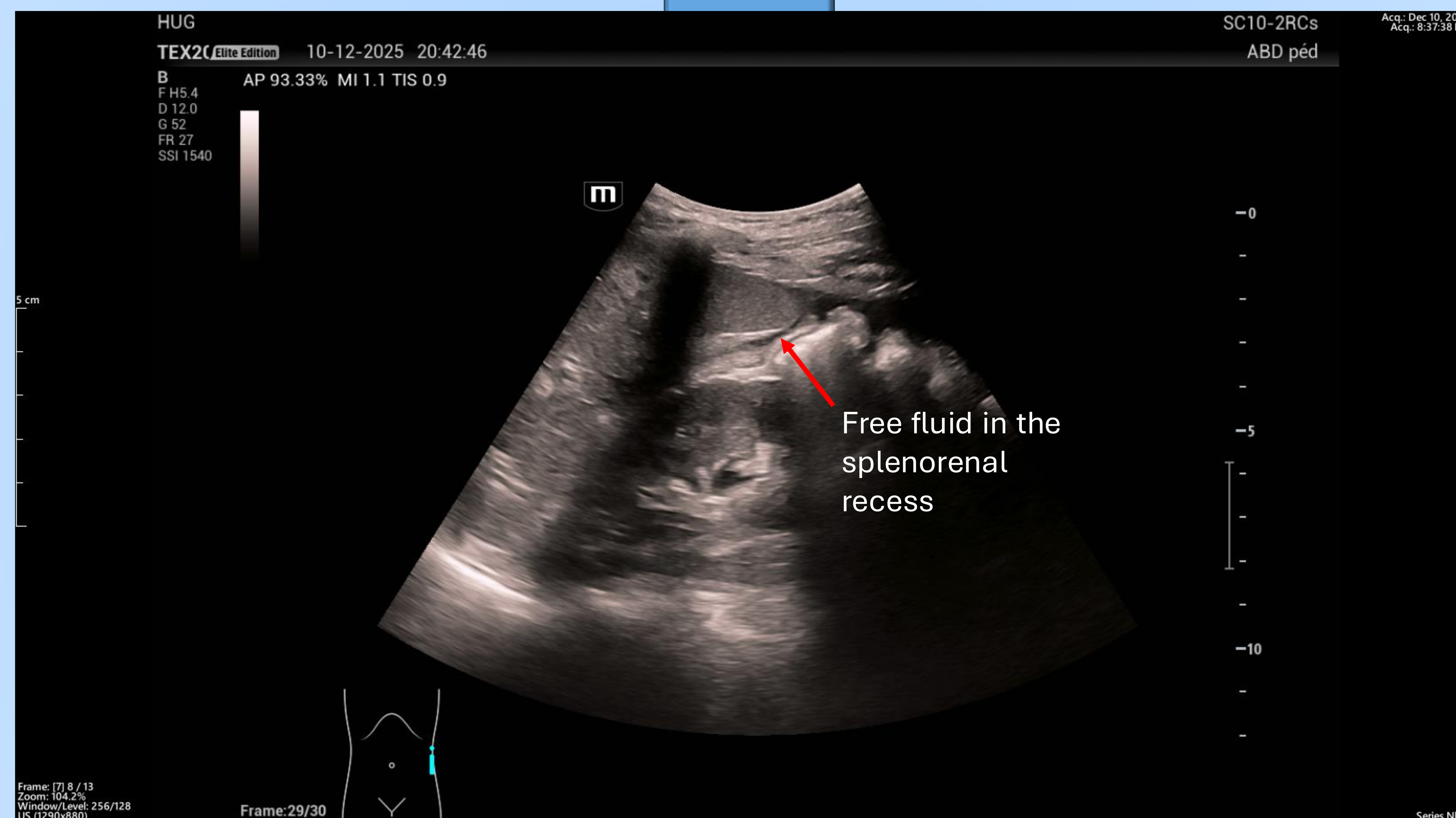
Fall from galloping horse while wearing a protective vest, gets up, walks around and developps sharps left flanc abdominal pain. She consults a peripheral hospital.
The clinical assessment: stable vitals signs, no history of head trauma, no vomiting, neurological deficit, or hemodynamic instability.
First ultrasound: suspicion of intra-peritoneal liquid.
Findings result in an immediate transfer to University hospital.

**17:30**

Arrival at Paediatric Emergency Room of the University Hospital of Geneva:
Vital signs on arrival:

- Blood pressure 139/65 mmHg
- Heart rate 109 bpm
- Oxygen saturation 98% on room air
- Respiratory rate 22/min

Primary survey findings were unremarkable.
On secondary examination, her abdomen was soft but diffusely tender, with pronounced pain over the left flank.
An E-fast is performed.




**18:05**

These findings prompted an urgent CT-scan permitting diagnosis of a grade IV splenic laceration with approximately 50% parenchymal devascularization and no active bleeding.

**Reminder: definition of grade IV splenic laceration as per American Association for the Surgery of Trauma[2]**
Based on CT findings:
- Any injury in the presence of a splenic vascular injury or active bleeding confined within splenic capsule
- Parenchymal laceration involving segmental or hilar vessels producing >25% devascularization

The patient recieves 20mg/kg of Tranexamic Acid, 1000mL of NaCl 0.9%, pain management and surveillance before transfer

**20:15**

The patient was admitted to the paediatric intensive care unit less than three hours after arrival, for non-operative management and close observation:

- Strict bed rest
- Hemoglobine control every 6 hours
- 24 hours surveillance

**Reminder: management of splenic laceration is dependent on hemodynamic stability.** Indeed, if children have a grade I-IV isolated splenic laceration and are clinically stable, a non-operative treatment is prefered.[3] Non-operative treatment includes blood transfusions, needed in up to 21% of patients.[4,5]

## This case highlights the pivotal role of E-FAST as a quick, accessible, and reliable instrument in the early detection of intra-abdominal injury in children. When used efficiently by emergency physicians, it bridges the gap between clinical suspicion and definitive diagnosis, expediting expert management even in hemodynamically stable trauma patients.

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# Conservative Management of Acute Non-Traumatic Mediastinitis in Children: A Case Series

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*Background:*
Acute non-traumatic mediastinitis is a rare and potentially life-threatening condition in childhood, and management strategies remain poorly standardized.

*Challenges:*
Indications for surgical versus conservative management remain poorly defined, as most published cases were managed surgically and, to our knowledge, only four case reported in the literature were fully treated conservatively.

*Objectives:*
We report four pediatric cases of acute non-traumatic mediastinitis, all successfully managed with conservative management.

## Case 1: 6-year-old girl

*Clinical presentation*: Febrile torticollis with odynophagia, and lower cervical pain

*CT scan*: diffuse infiltration of the left anterior cervical fat and anterior mediastinum with a retrosternal collection (75 x 6 x 14 mm)

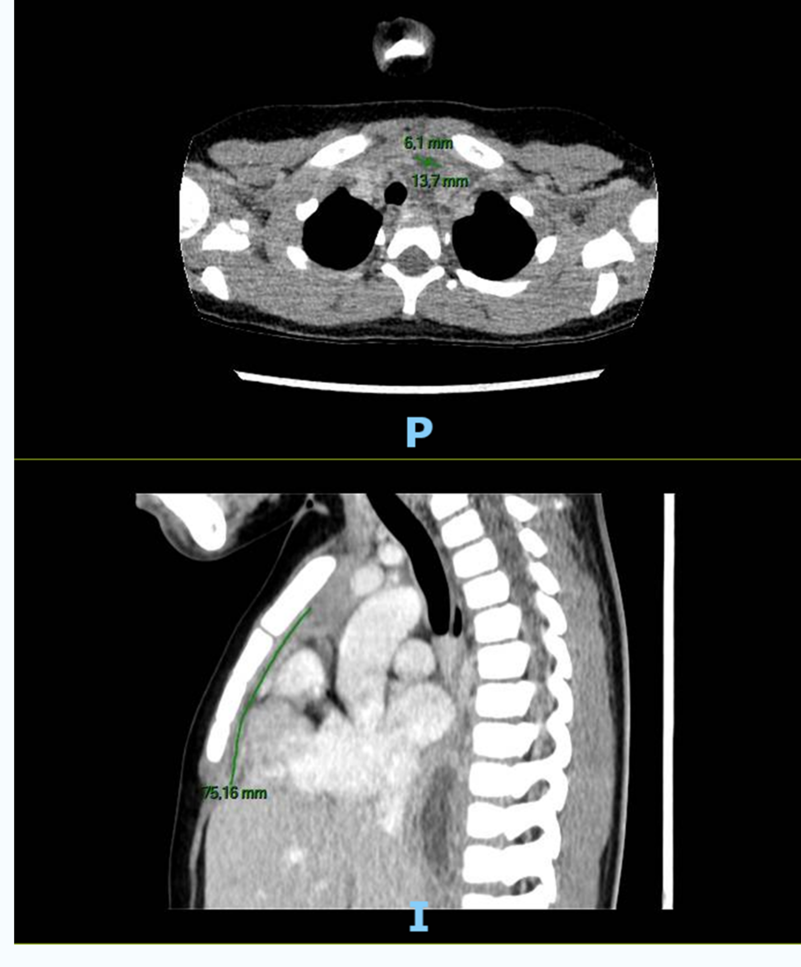
*Microbiological etiology*: *Streptococcus pyogenes*

*Diagnosis*: Descending necrotizing mediastinits (DNM)

*Antibiotics*: Amoxicillin-clavulanate. IV : 7 days, global length: 28 days

*Complications*: Acute respiratory failure

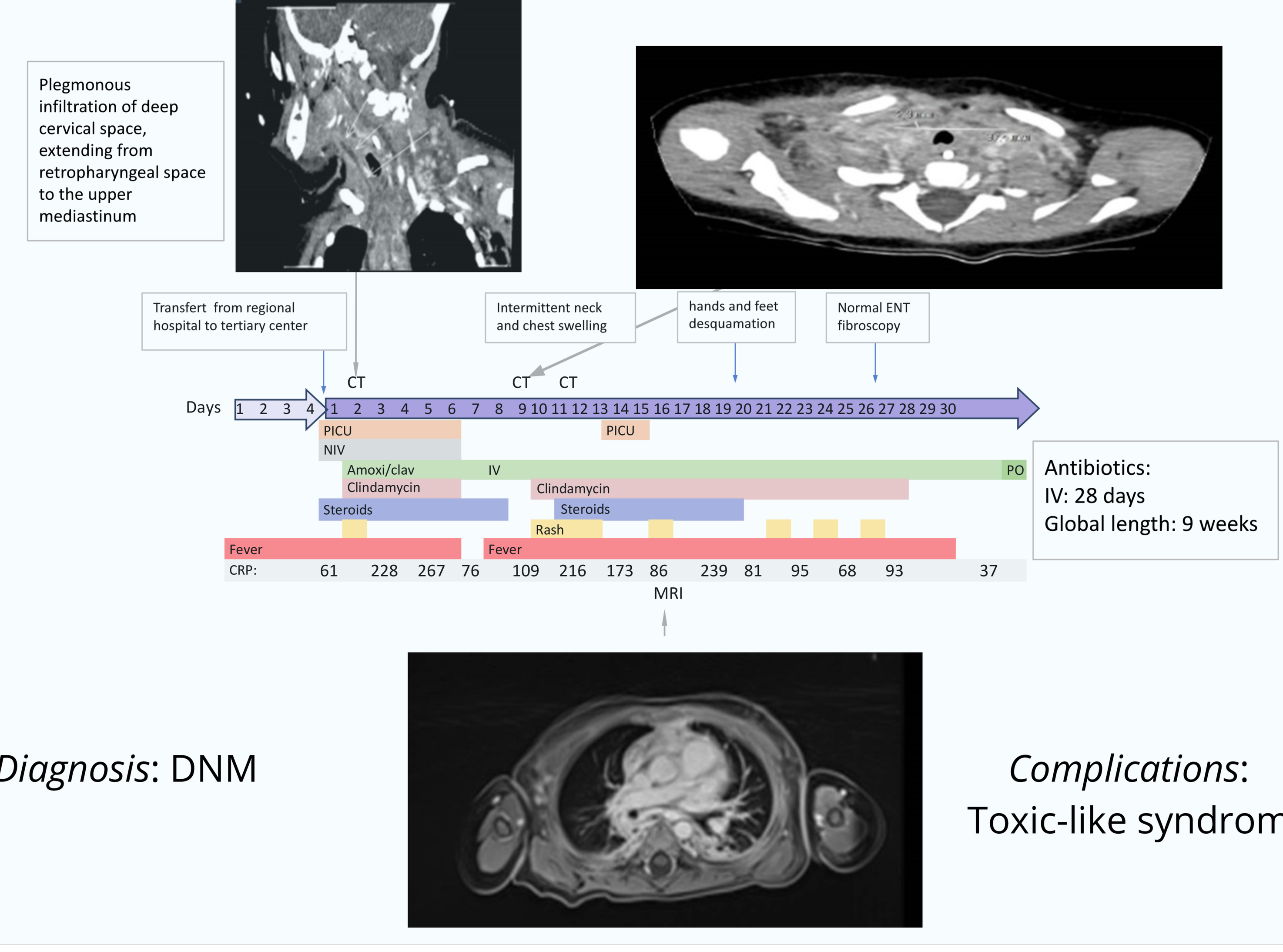
*Other treatments*: NIV, Pleural drain



## Case 2: 8-month-old boy

*Clinical presentation*: Fever, cough and stridor with acute respiratory failure

*Microbiological etiology*: unknown, (viral coinfection: adeno and pan-enterovirus)



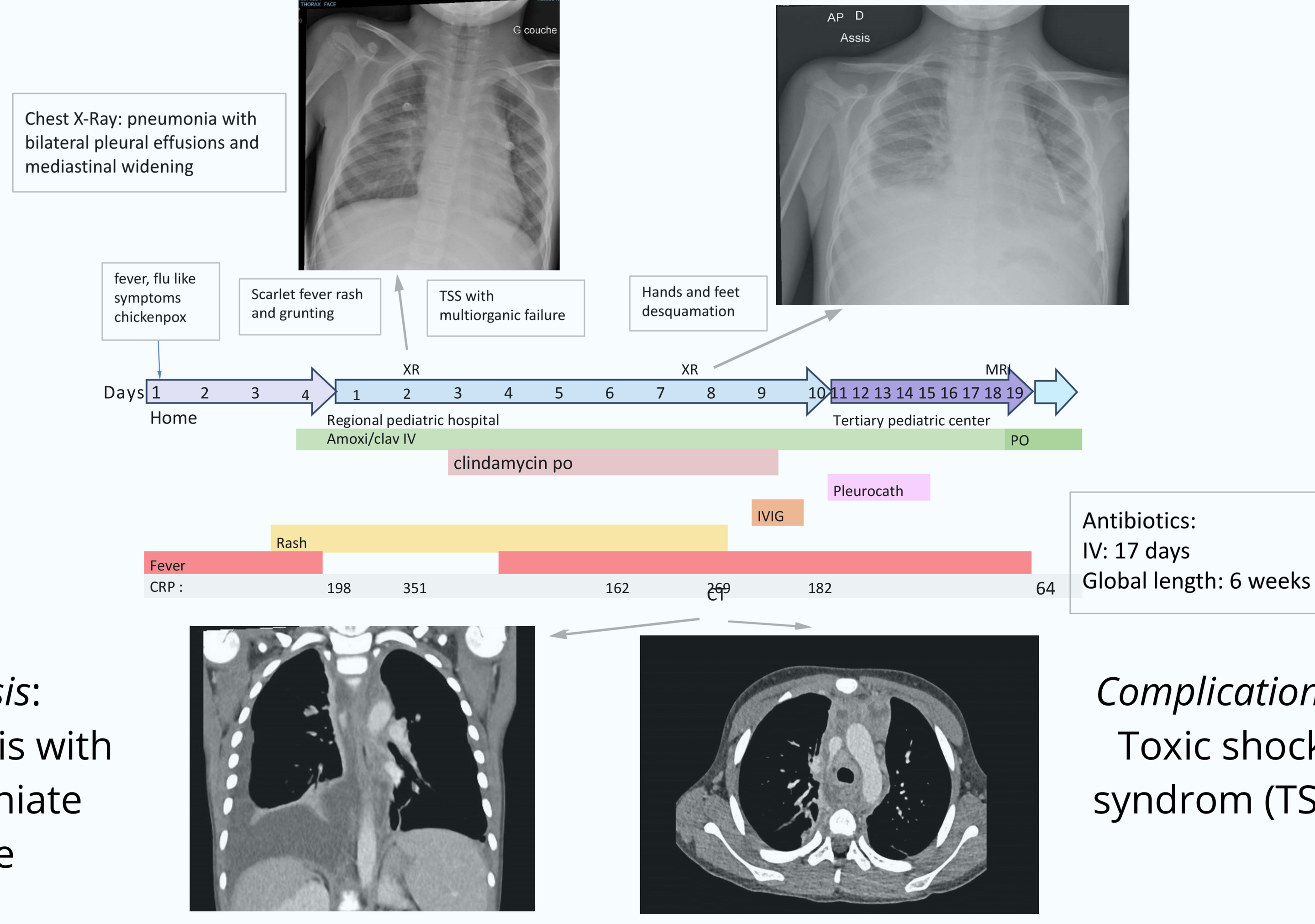

*Diagnosis*: DNM

*Complications*: Toxic-like syndrom

## Case 3: 6-year-old boy

*Clinical presentation*: Fever, varicella and scarlet fever-like rashes, odynodysphagia

*Microbiological etiology*: *S. pyogenes*, varicella coinfection




*Diagnosis*: mediastinitis with indertemnate source

*Complications*: Toxic shock syndrom (TSS)

## Case 4: 10-year-old boy

*Clinical presentation*: Fever without focus and right shoulder pain

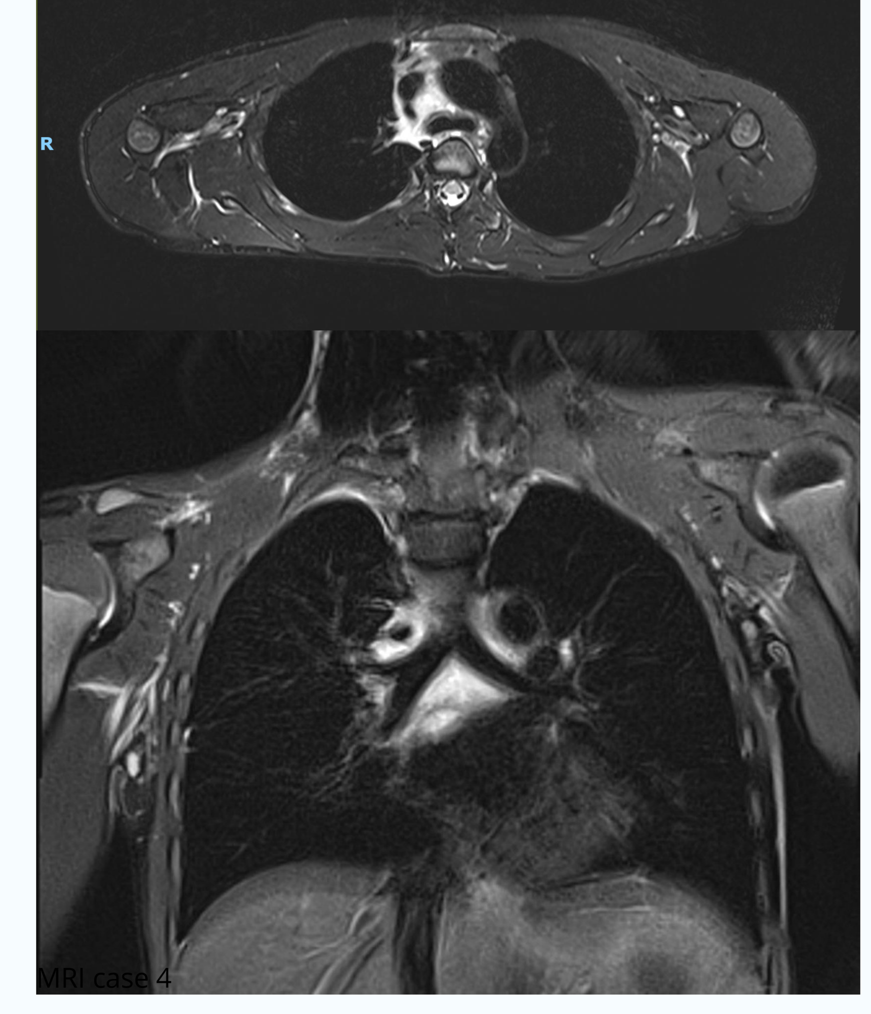
*MRI*: initally focused on the right shoulder. No abnormality in both shoulder, but signs of mediastinitis with upper mediastinum infiltration without fluid collection

*Microbiological etiology*: none

*Diagnosis*: mediastinitis with inderteminate source

*Antibiotics*: Amoxi/clav. IV : 6 days, global length: 4 weeks

*Complications*: none



Notes: All patients were fully vaccinated, had no significant medical story and had complete revovery.
Conservative management was decided after multidisciplinary team discussion, primarily based on radiological findings (absence of a drainable abscess).

## Discussion

Comparison between the case series and literature reports of conservatively managed cases:

| | Our serie | Wright et al.[1] | Lira et al.[2] | Hadhud et al.[3] | Clark et Lobo [4] |
|---|---|---|---|---|---|
| *Radiological findings* | Mediastinal phelgmon with no organized collections | Retropharyngeal and upper mediastinal phlegmon with no fluid collections | 3 mediastinal collections (largest measuring 40 x 14 x 27 mm) | Retropharyngeal collection and attenuation of mediastinal fat | Pretracheal and suprasternal inflammatory collection (2,7 cm in diameter) |
| *Antibiotics duration* | 3 to 9 weeks | unknown | 4 weeks IV | 74 days | 14 days |
| *Identified pathogens* | Suspected or confirmed *S.pyogenes* | unknown | *S. pyogenes* | *S. pyogenes* | *S. pyogenes* |
| *Outcome* | Complete recovery | Complete recovery | Complete recovery | Complete recovery | Complete recovery |

**Potential selection criteria for conservative management:**

- Absence of well-defined drainable fluid collections
- Clinical stability
- Infection with highly suceptible organisms
- Close inpatient monitoring with prompt acess to thoracic surgical management in case of clinical detoriation

*Notes: Further studies are needed to establisch evidence-based strategies for conservative management.*

## Main message

Pediatric acute non-traumatic can be successfully treated with conservative management in carefully selected patients.

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# Early clinical experience with a standardized protocol for AB0 incompatible heart transplantation in children

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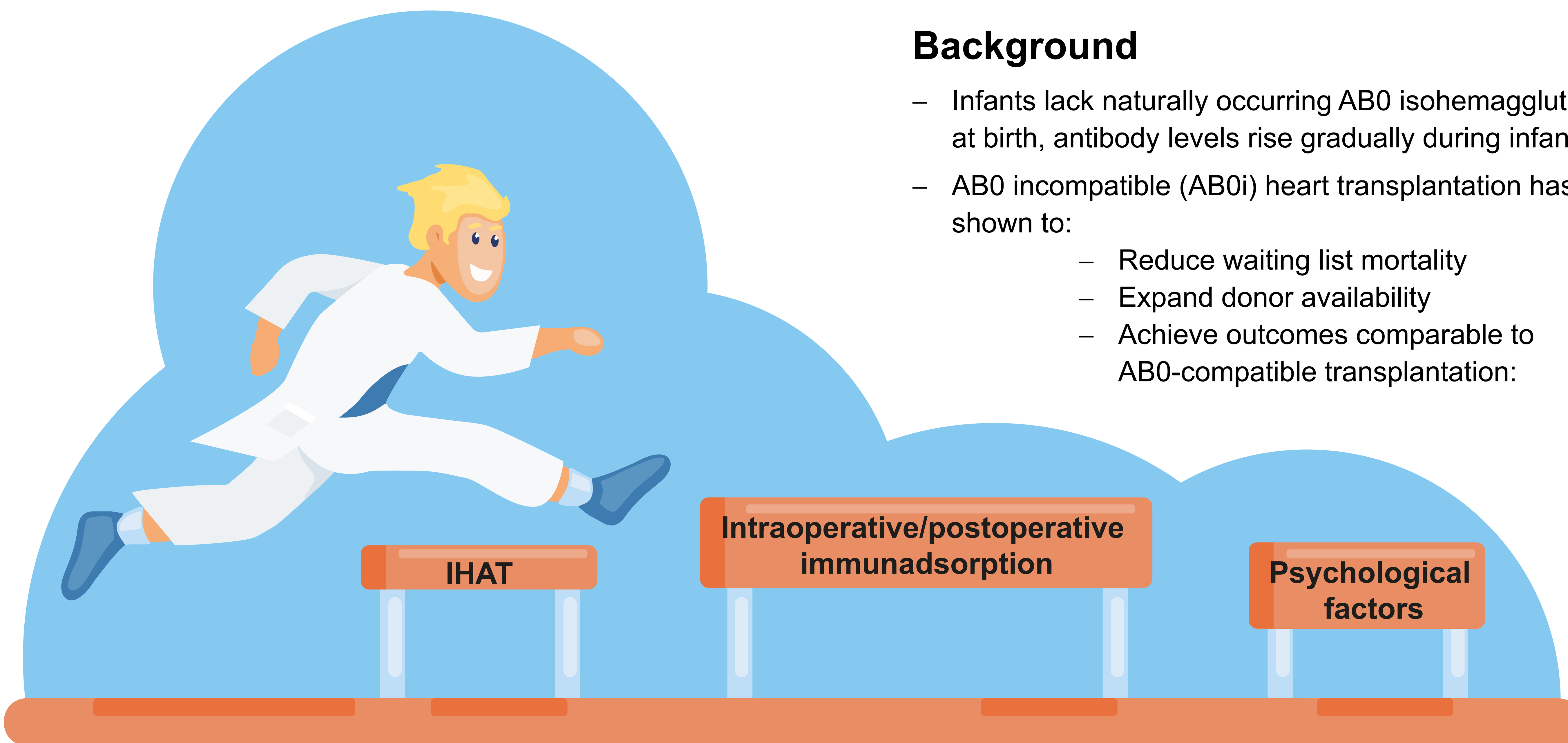
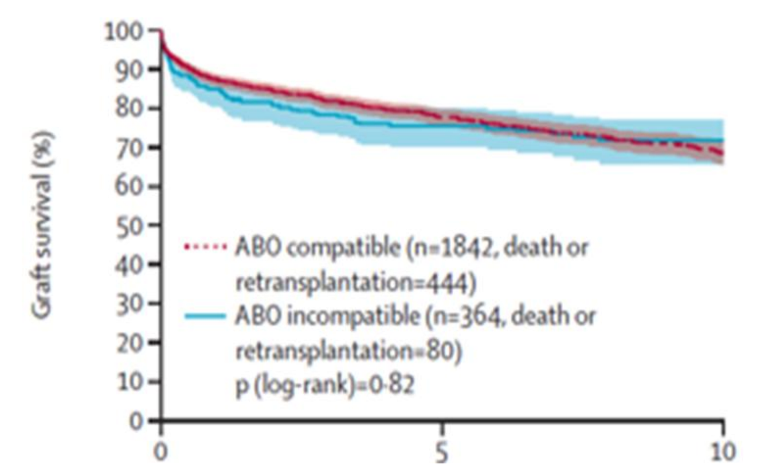
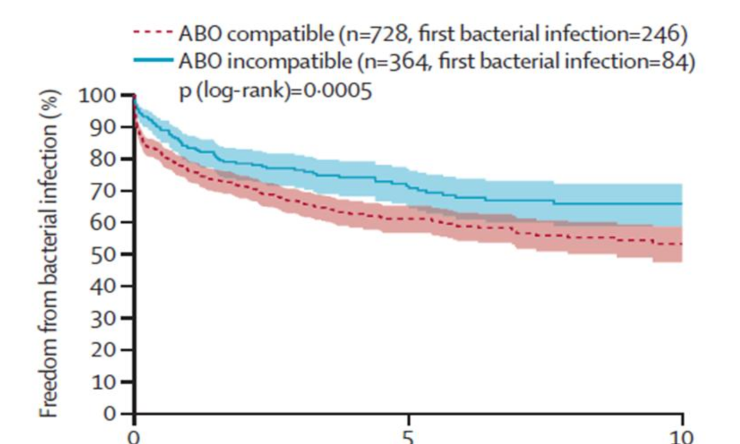



## Background

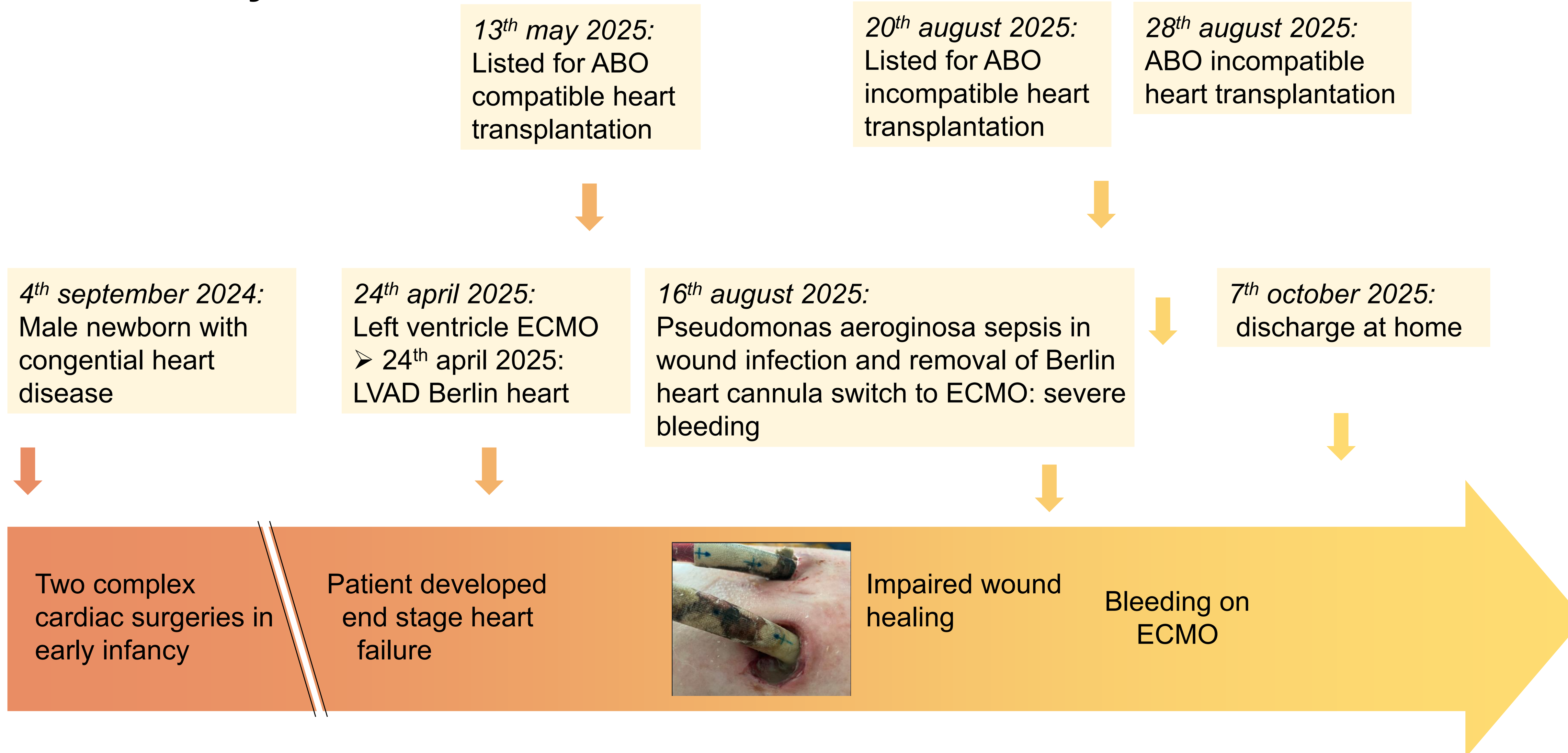
- Infants lack naturally occurring AB0 isohemagglutinins at birth, antibody levels rise gradually during infancy.
- AB0 incompatible (AB0i) heart transplantation has been shown to:
  - Reduce waiting list mortality
  - Expand donor availability
  - Achieve outcomes comparable to AB0-compatible transplantation:




- Similiar survival, rejection, coronary allograft vasculopathy, malignancy in ABO compatible and ABO incompatible heart transplantation in children transplanted < 2 years of age
- Slightly less infection with encapsulated bacteria in the group of ABO incompatible transplanted patients compared to ABO-compatible transplanted recipients (Urschel et al, 2021 Lancet)




## Case history




**Transplantation Details and Outcome**

Recipient: Blood Group 0
Donor: Blood Group A

ABO incompatibility
Anti-A1 Isohemagglutinin Titer 1:1

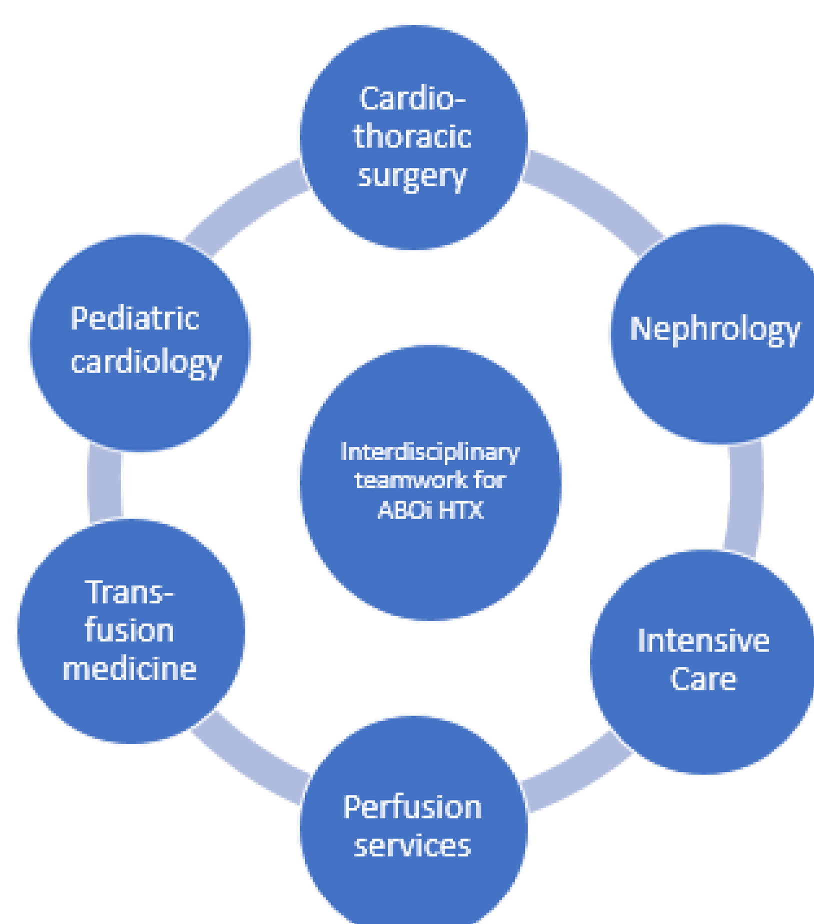
Suspected donor-specific HLA antibodies:
Anti-DQ 2 (MFI 6467), Anti-DR1 (MFI 5410)

Pre-operative plasma exchange

- Uneventful transplantation
- Pre-transplant DSAs interpreted as passively acquired
- Excellent graft function at 4-month follow up

## Discussion

There is a window of opportunity in childhood during which an AB0-incompatible heart transplantation can be safely performed. This concept has been used since 1996, and with careful preparation AB0i transplants have equally good short- and longterm outcomes as AB0-compatible heart transplants. Crucial to the success is a standardized protocol, training and equipment as well as close multidisciplinary collaboration among pediatric cardiology, cardiothoracic surgery, perfusion services, nephrology, transfusion medicine, anesthesia, and intensive care teams.




## Conclusion

**Successful AB0 incompatible heart transplantation was performed in a 12 month old patient without periprocedural or short-term complications. Factors contributing to the success of the first ABO incompatible heart transplantation at the University Childrens`s Hospital in Zürich were institutional support, meticulous preparation and a combined team effort.**

**References:** West LJ et al. *N Engl J Med.* 2001, Dipchand AI et al. *Am J Transplant.* 2011, , Irving C et al. *J Heart Lung Transplant.* 2012, Urschel S et al. *Lancet Child Adolesc Health.* 2021

# Translating Evidence into Practice:

## The Pediatric Evidence Assessment

**Meuwly N[1], Escher A[1], Steiner I[1], Rivero T[2], Brandenberger J[1]**
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## BACKGROUND

Evidence-based medicine (EBM) supports clinical decision-making by integrating the best available scientific evidence to enhance patient safety, treatment effectiveness, and equity in healthcare[1, 2] (Fig 1). Within the set of learning objectives for Swiss medical students and faculties (PROFILEs), it is a required competence in CanMEDS role of the Scholar[3] (Fig 2). Yet, EBM teaching embedded in daily clinical work is lacking. The Pediatric Evidence Assessment (PEA) was developed by the pediatric emergency department in Bern to fill this gap.

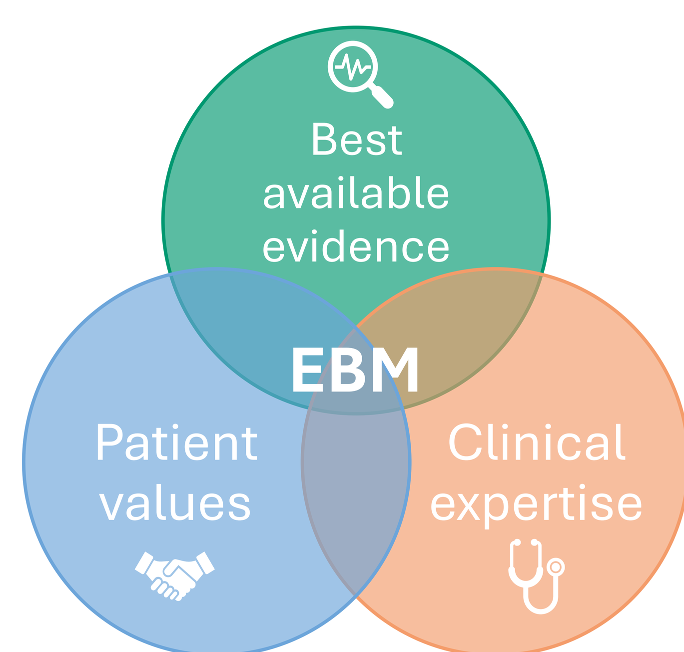


*Figure 1. Components of Evidence-based Medicine*

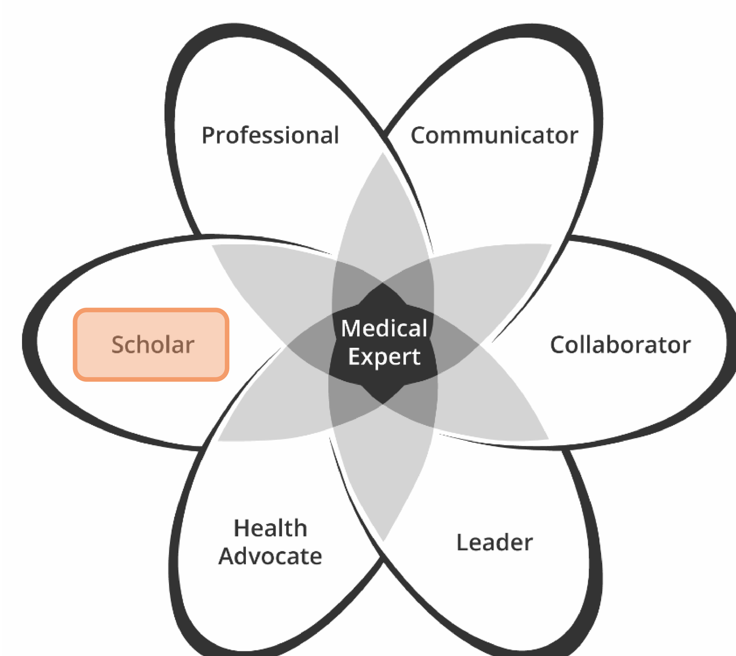


*Figure 2. CanMEDS - Medical Competency Profile of the Royal College of Physicians and Surgeons of Canada*

## METHODS

An interdisciplinary, practical seminar series was developed by a librarian and pediatric emergency staff. Pediatric trainees choose a clinical question originating from their daily practice. Guided by the teachers in three learning sessions, they transform their question into a researchable question, conduct a targeted literature search, summarize relevant publications (approximately 4–10) (Fig 3) and present them at the monthly staff meeting. Structured feedback is provided.

## CONCLUSIONS

The PEA is an educational tool to promote EBM competencies in pediatric training.
It provides trainees with a systematic approach to formulate clinically relevant questions, critically appraise the currently available evidence and translate results back into their day-to-day practice, while also considering the individual needs and values of each patient.

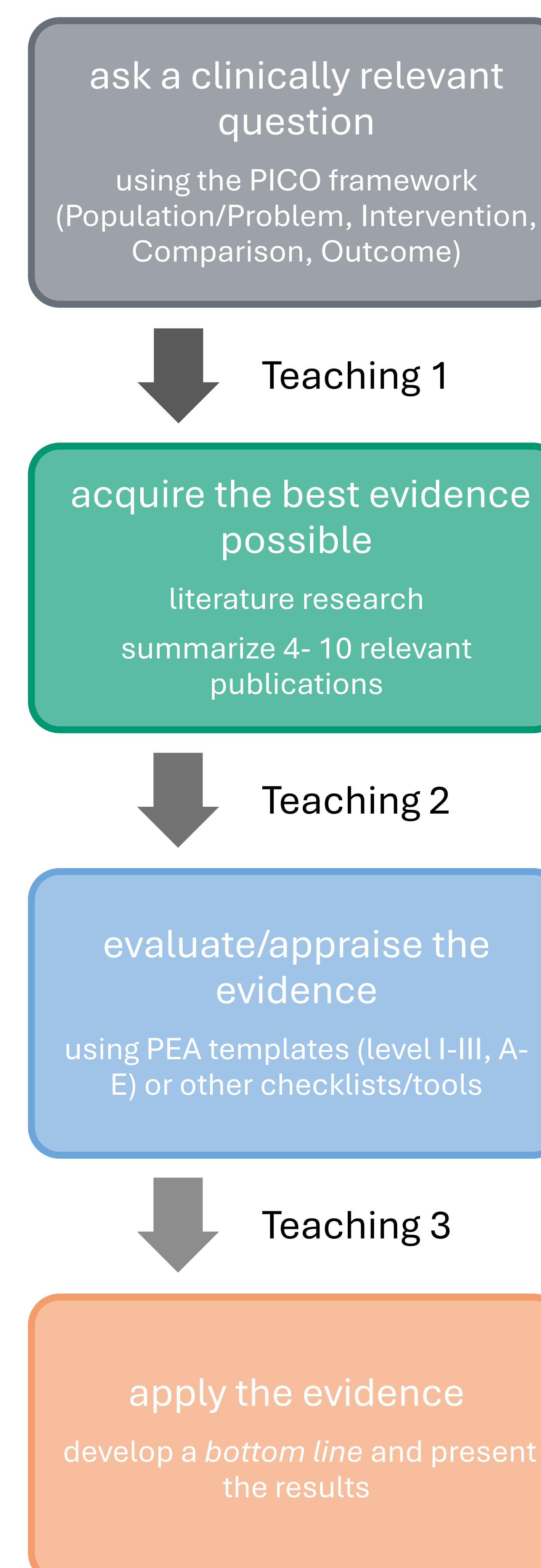


*Figure 3. PEA in Bern – workflow of the teaching series*

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**References**
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based medicine: What it is and what it isn't. BMJ. 1996;312(7023):71-72.
3. Frank JR, Snell L, Sherbino J, eds. CanMEDS 2015 Physician Competency Framework. Ottawa: Royal College of Physicians and Surgeons of Canada; 2015.

KSA Kinderspital Aarau

KSA Children's Hospital Aarau

# Uncommon side effects due to a common cold: Inhaled salbutamol as premedication causing acute toxicity

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2 KSA Children's Hospital Aarau, Department of Pediatrics, Section of Sports Medicine, Aarau, Switzerland
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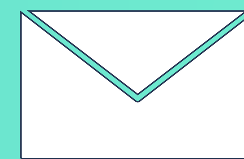
## Key message

Routine salbutamol premedication in low-risk children lacks evidence and may cause clinically relevant harm



## Background[1-4]

- Salbutamol is widely used in pediatric practice and generally safe
- Pre-treatment via inhaler before elective intubation or induction of anesthesia is common in children with predisposing factors (e.g. asthma) or recent respiratory tract infection to prevent perioperative respiratory adverse events (PRAE)
- Common side effects include hypokalemia, lactic acidosis and more rarely electrophysiological alterations

## Case: Description

- 11-year old girl
- Atopic eczema, brother with asthma
- Presentation for elective gastro-esophagoduodenoscopy
- Mild rhinitis on day of procedure
- 800 mcg salbutamol, xylometazoline and midazolam as premedication
- Tachycardia and palpitations post-administration
- Sedation with propofol, ketamine (no intubation)

## Case: Symptoms and technical findings

- Reported symptoms of blurred vision and palpitations, otherwise awake and well
- ECG right after procedure: Left-anterior fascicular block and prolongation of corrected QT-interval
- Arterial blood gas test: pH 7.30, potassium 2.8 mmol/L, lactate 7.8 mmol/L

## Case: Management and outcome

- Monitoring and wait-and-see approach
- Spontaneous disappearance of blurred vision after a few minutes, of palpitations after a few hours
- ECG returning to age-appropriate 6 h after administration of salbutamol
- Electrolyte changes gradually decreasing and disappearing by the next morning

## Case overview

- 11-year old girl presenting for elective endoscopy
- Persistent tachycardia (~160 bpm) after 800 mcg inhaled salbutamol
- ECG changes and metabolic alterations (hypokalemia, lactic acidosis)
- No immediate resolution despite sedation

## Discussion[1, 5-7]

- 11-year-old girl developed transient tachycardia, ECG changes, and metabolic alterations after inhaled salbutamol premedication
- Effects are consistent with known $\beta_2$-agonist pharmacology (potassium shift, sympathetic stimulation)
- Even therapeutic or lower doses may induce transient ECG and metabolic changes, especially with electrolyte imbalance
- No consistent evidence that routine prophylactic use of $\beta_2$-agonists reduces perioperative respiratory adverse events in low-risk children
- Findings support restrictive, indication-based use rather than routine salbutamol premedication

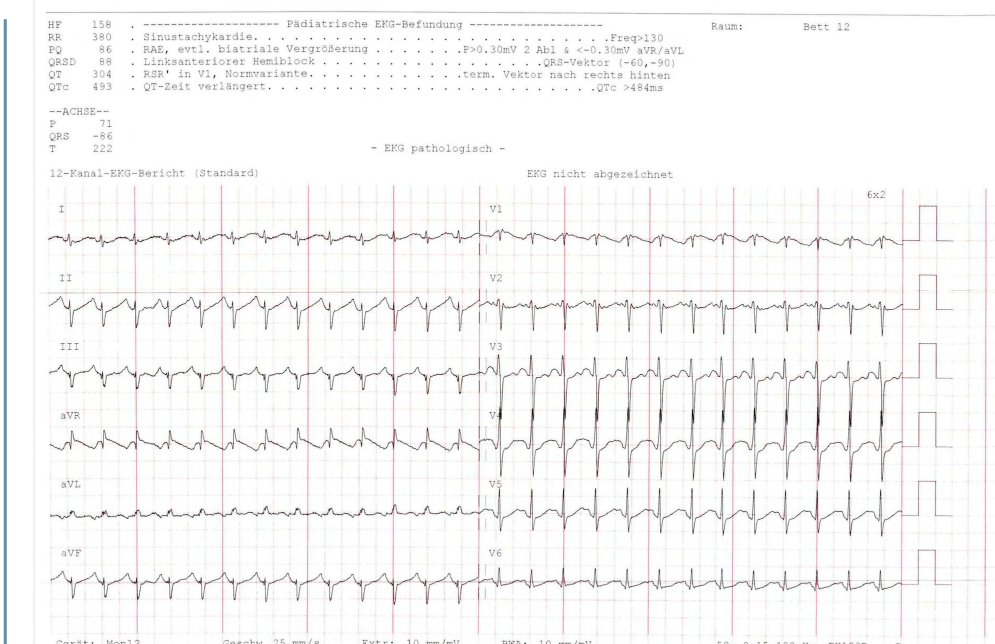


*Figure 1: ECG 1 h after administration*

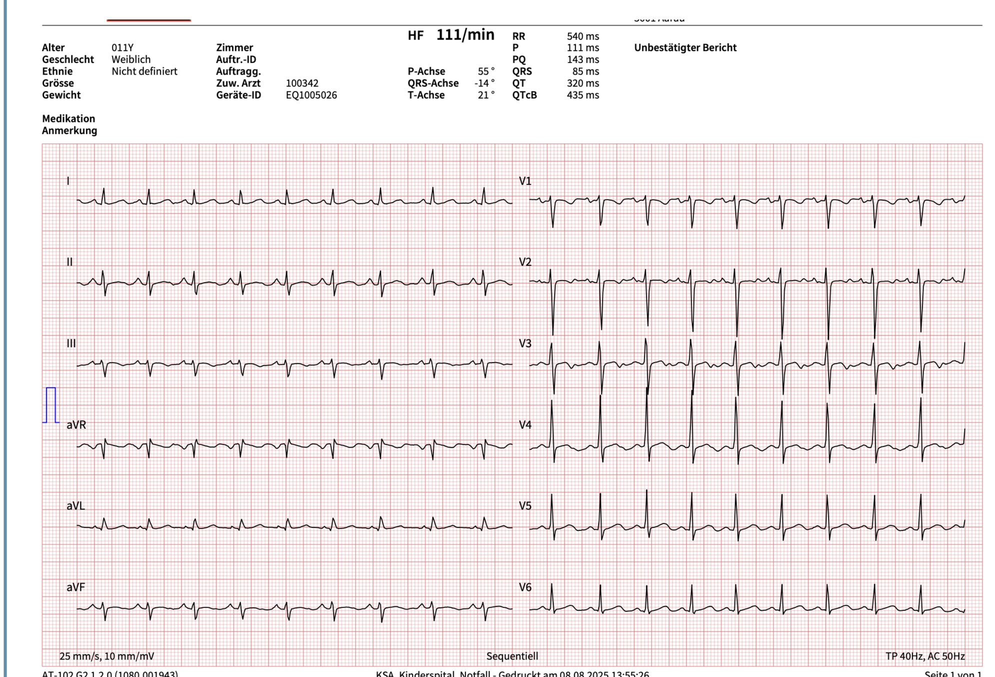


*Figure 2: ECG 6 h after administration*

| Parameter | Reference range | Result |
|---|---|---|
| pH | 7.35-7.45 | 7.30 * |
| $pCO_2$ (mmHg) | 32-45 | 44 |
| $pO_2$ (mmHg) | 83-108 | 54 * |
| $HCO_3$ (mmol/L) | 22-26 | 21* |
| Base Excess (mmol/L) | -2.0-+3.0 | -4.3 * |
| Anion gap (mmol/L) | 7-16 | 13 |
| Hemoglobin (g/L) | 110-150 | 137 |
| Hematocrit (l/l) | 0.34-0.43 | 0.42 |
| Sodium (mmol/L) | 136-146 | 142 |
| Potassium (mmol/L) | 3.4-4.5 | 2.8 !! |
| Chloride (mmol/L) | 98-106 | 108 * |
| Calcium ionized (mmol/L) | 1.15-1.29 | 1.28 |
| Glucose (mmol/L) | 3.9-5.5 | 6.2 ^ |
| Lactate (mmol/L) | 0.5-1.6 | 7.8 * |

*Table 1: blood-gas-analysis 1 h after administration*

| Parameter | Reference range | 4 h | 6 h | 24 h |
|---|---|---|---|---|
| pH | 7.35-7.45 | 7.35 | 7.40 | 7.42 |
| $pCO_2$ (mmHg) | 32-45 | 41 | 36 | 40 |
| $pO_2$ (mmHg) | 83-108 | 50 | 71 | 64 |
| $HCO_3$ (mmol/L) | 22-26 | 23 | 22 | 26 |
| Base Excess (mmol/L) | -2.0 - +3.0 | -3.1 | -3.0 | 1.5 |
| Anion gap (mmol/L) | 7-16 | 14 | 14 | 10 |
| Hemoglobin (g/L) | 110-150 | 138 | 136 | 145 |
| Hematocrit (l/l) | 0.34-0.43 | 0.42 | 0.42 | 0.45 |
| Sodium (mmol/L) | 136-146 | 143 | 144 | 144 |
| Potassium (mmol/L) | 3.4-4.5 | 3.1 | 4.2 | 3.9 |
| Chloride (mmol/L) | 98-106 | 107 | 108 | 108 |
| Calcium ionized (mmol/L) | 1.15-1.29 | 1.24 | 1.24 | 1.28 |
| Glucose (mmol/L) | 3.9-5.5 | 4.7 | 4.9 | 5.0 |
| Lactate (mmol/L) | 0.5-1.6 | 6.1 | 6.5 | 1.0 |

*Table 2: Serial blood-gas-analyses at 4 h, 6 h, 24 h after administration of salbutamol*

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# Parasitic Infections Presenting with Extra-Intestinal Symptoms in Migrant Children: Three Illustrative Cases and a Pragmatic Algorithm

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## INTRODUCTION

- Parasitic infections are **frequent** among children seeking asylum: about 15-35% prevalence of intestinal parasites[1] and 11% seroprevalence for both schistosomiasis and strongyloidiasis[2] across several studies
- Routine **single-dose albendazole** recommended for asymptomatic migrant children/adolescents upon arrival in Switzerland[3]
- Limitation: Single dose albendazole does not cover all prevalent, clinically relevant helminth infections (see Table 1)
- Further diagnostics including **3 stool samples** (microscopy for protozoa/helminths) and serology indicated for symptomatic patients, including those with **eosinophilia (>0.5 G/l)**

| Parasite | Treatment effect with single dose albendazole | Treatment recommendations |
|---|---|---|
| *Ascaris lumbricoides* | **95% cure rate (CR)**, egg reduction rate (ERR) >99.9%[4] | Albendazole single dose |
| Hookworms | **69% cure rate**, ERR 97%[4] | **Albendazole** once daily for **3 days** (92% cure rate) |
| *Trichuris trichiura* | 34% cure rate, ERR 77%[4] | **Albendazole** once daily for **3 days** (70% CR) **+/- ivermectin** once daily for 3 days (97% CR for combined treatment[5]) |
| *Schistosoma* | Not effective[6] | **Praziquantel** |
| *Strongyloides stercoralis* | <50% cure rate[7] | Ivermectin once daily for 2 days |

*Table 1: Effect of single dose albendazole (400mg per os if >2 years, 200mg if <2 years) on frequent helminthic infections*

## CASE PRESENTATIONS

### CASE 1

**Initial presentation**
- 10-year-old boy from Ukraine
- Linear growth: 5th percentile
- **Eosinophilia 1.25 G/l (**2 months post albendazole single dose)

**Diagnosis:** ***Trichuris trichiura*** + *Giardia lamblia* (stool microscopy)

**Evolution:** catch-up growth >P25

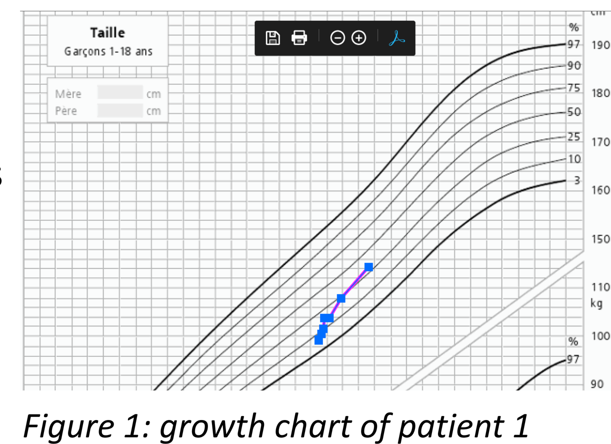

*Figure 1: growth chart of patient 1*

### CASE 2

**Initial presentation:**
- 4-year-old Ukrainian girl
- Repeated episodes of wheezing requiring inpatient treatment from the age of 2 years
- **Hypereosinophilia 2.44 G/l**

**Diagnosis:** ***Strongyloides spp*** (serology)

**Evolution:** No further episodes of wheezing until loss to follow-up (return to Ukraine)

### CASE 3

**Initial presentation:**
- 15-year-old Afghan boy
- Treatment refractory **iron-deficiency anemia**
- **Eosinophilia (0.78 G/l)**

**Diagnosis:** one stool sample negative for helminth ova, refusal of repeated stool examination

**Evolution:** A 3-day treatment with albendazole was proposed for coverage of hookworms and *Trichuris trichiura.*
Eosinophilia and anemia resolved after albendazole treatment.

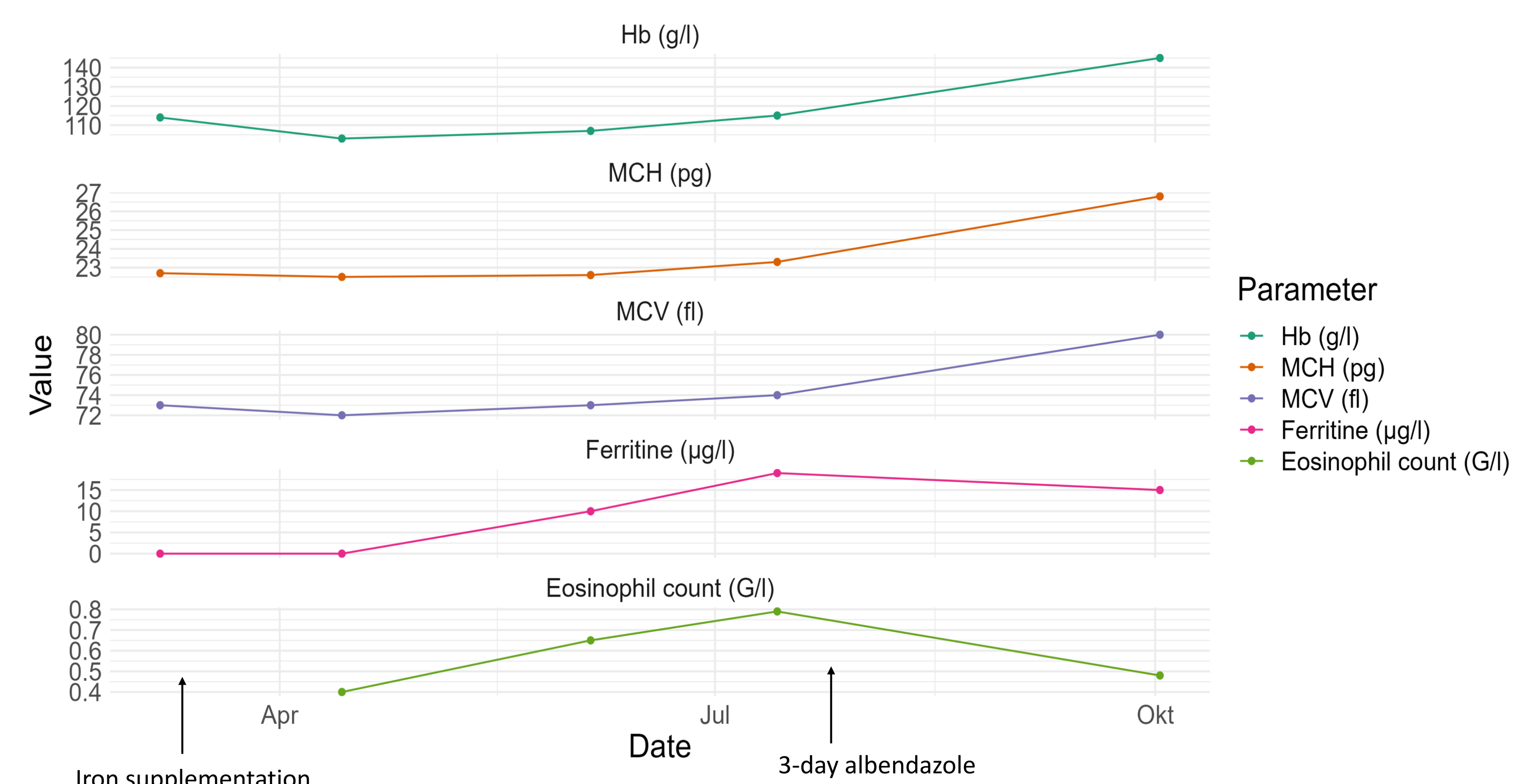


*Figure 2: Evolution of hematological parameter over time (before/after treatment) in patient 3*

## DISCUSSION

- Frequent **non-digestive presentations** of parasitic infections in children:

| Symptom | Parasites | Pathophysiology |
|---|---|---|
| **Stunted growth** | Various intestinal protozoa and helminths | Multifactorial: diarrhea, inflammation, environmental enteric dysfunction (malabsorption), microbiome perturbation, appetite suppression[8] |
| **Respiratory symptoms** (cough, wheezing) | Hookworms | Pulmonary passage during life cycle (larvae enter circulation from the intestines, break through the alveoli, are coughed up and swallowed) |
| | *Strongyloides stercoralis* | |
| | *Ascaris lumbricoides* | |
| **Anemia** | *Ankylostoma duodenale* and *Necator americanus* (hookworms) | Parasite attaches to gut mucosa with mouth plate and feeds on host blood (blood loss= Blood ingested by hookworm + leakage from damaged capillaries)[9] |
| | *Trichuris trichiura* | Parasite insertion into mucosa → rupture of capillaries[9] |
| | Schistosoma | Egg migration from mesenteric/vesicular venous plexus to intestinal/bladder lumen →Fecal/ urinary blood loss + inflammation |

→ Increased clinical awareness of these presentations is essential to avoid delayed diagnosis

- Frequent **barriers** to full diagnostic workup in migrant families:
  - Sociocultural perception of feces, shame
  - Logistical and economic barriers (transport fees, time; place to store samples)
  - Barriers in understanding (of necessity, collection technique, …)
  - Competing priorities
- For patients with eosinophilia: 3-day treatment with albendazole + ivermectin as an option in case of refusal/delay of investigations (figure3):
  - highly effective against most helminths frequently involved in eosinophilia (but not schistosoma, filiariasis) [5]
  - synergic effect
  - mild to moderate side effects in about 30% of patients: gastrointestinal symptoms, headache, elevated liver enzymes
  - Fixed drug combination approved by European Medicines Agency, but not yet commercially available

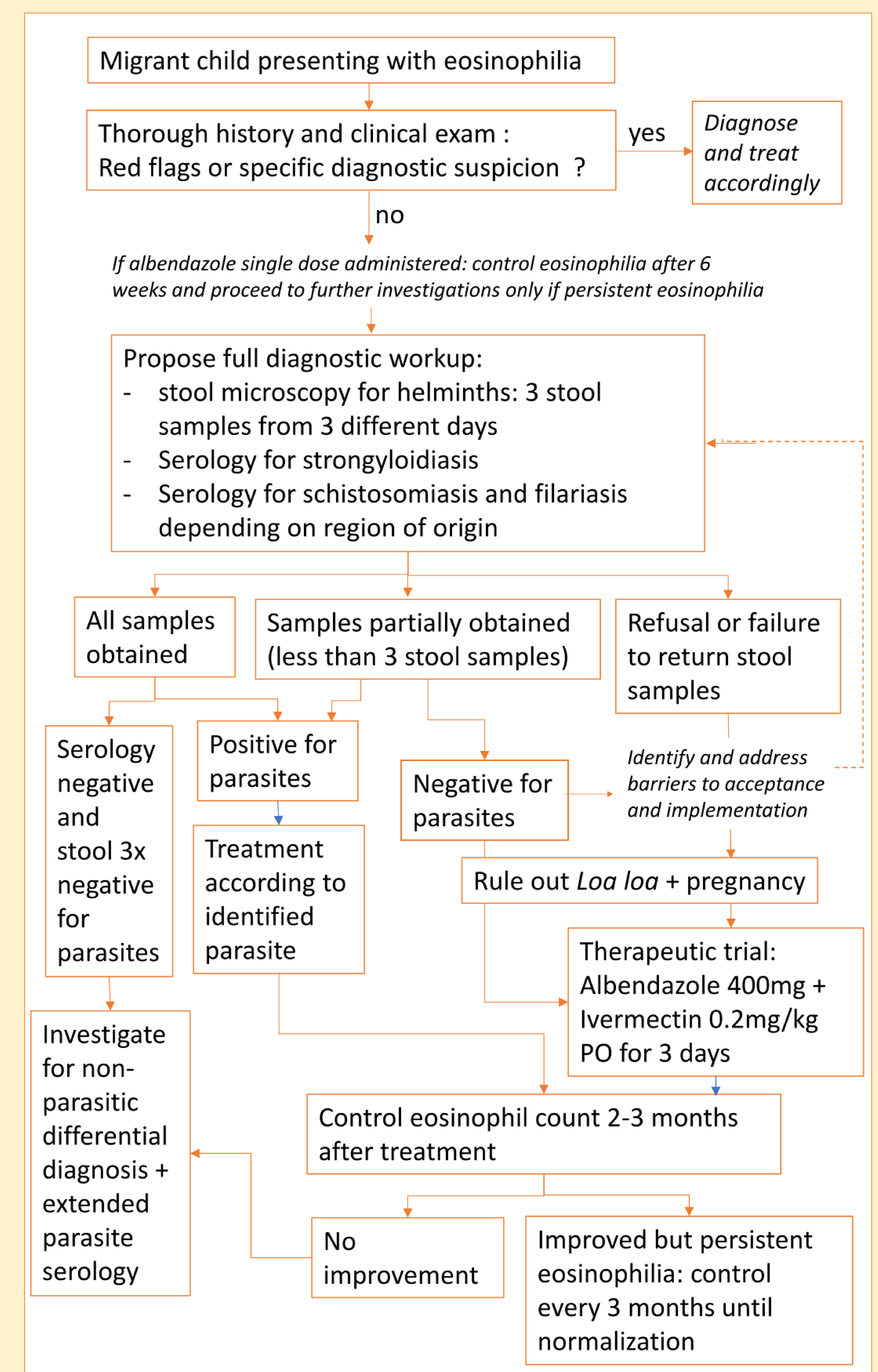


*Figure 3: proposed diagnostic/therapeutic algorithm*

## CONCLUSION

- Parasitic infections in migrant children may present with non-digestive manifestations such as growth restriction, anemia, and wheezing
- A therapeutic trial with albendazole and ivermectin may be warranted for timely management in the context of barriers to access and acceptance of diagnostic steps

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RHNe Réseau Hospitalier Neuchâtelois

# Severe Stridor in a Child With Autism Spectrum Disorder: A Case of Bacterial Tracheitis

Département de pédiatrie

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Oller Domingo X.
Spigariol F.

## BACKGROUD

**Stridor** is a **frequent** pediatric emergency, most commonly caused by **viral laryngotracheitis**, which is typically mild and self-limited. However, **bacterial tracheitis**—though rare—can be **life-threatening**. Lack of improvement with standard treatment should raise concern. Diagnosis and management may be more complex in children with neurodevelopmental disorders.

## CASE REPORT

An **8-year-old child** with autism spectrum disorder (ASD) presents with **3 days of fever** and **24 hours of dyspnea**. There is no history of asthma or foreign body aspiration, and vaccinations are up to date.

- **Vital signs:** HR 135 bpm, BP 132/97 mmHg, RR 17/min, $SpO_2$ 99% on air, T 37.7°C

**Initial examination:**

- Unwell-appearing
- Severe respiratory distress
- Silent chest, mild wheeze and stridor

## CLINICAL COURSE

Signs of lower and upper airway obstruction:

- Normal chest Xray
- Inhaled bronchodilators and intravenous corticosteroids
- Repeated nebulized epinephrine

Fever and toxic-appearing:

- **CRP ↑ from 32 to 158mg/l in <24 hours**
- Empirical intravenous antibiotics

Worsening respiratory distress despite of:

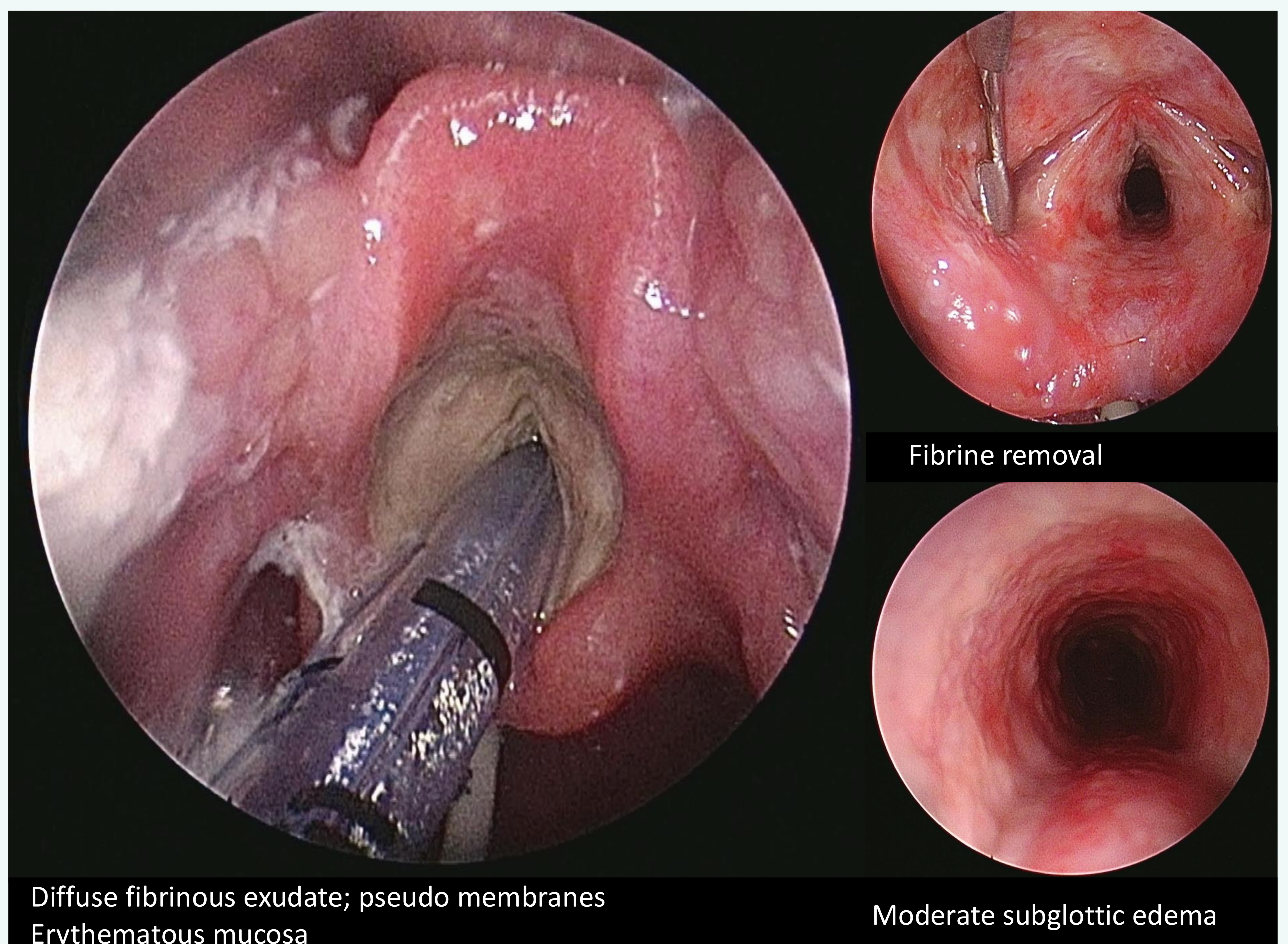
- Hourly nebulized epinephrine
- Failed non-invasive ventilation (partly due to ASD)

**No response to standard therapy** with severe respiratory distress, persistent stridor, sustained high fever and rising inflammatory markers = high suspicion of **bacterial tracheitis**

Endotracheal intubation: pus ++
*(ENT team in backup)*

Transfer to PICU

PEDIATRIC ICU CHUV




Diagnostic laryngoscopy and bronchoscopy (D1):
Acute pseudomembranous **laryngotracheitis** due to ***Staphylococcus aureus***

- 10 days course of amoxicillin-clavulanate with transition from intravenous to oral therapy
- Extubated after 3 days
- Favorable outcome

## CONCLUSION

This case highlights the importance of considering bacterial tracheitis in children with **severe stridor unresponsive** to **standard croup therapy**. A high index of suspicion and early escalation of care are crucial, particularly in patients with neurodevelopmental comorbidities.

University teaching and research hospital

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Department of Paediatrics

# Evaluating Health Communication Practices at the Childrens Hospital of Central Switzerland (KidZ)

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## Background & Aim

- Paediatrics inherently requires complex, shared care involving guardians and specialized staff[1]
- Effective communication is required for patient safety, hospital evaluation and staff satisfaction[2]
- Modern reliance on EHR, online communications and other digital tools increases transparency but may negatively affect perceived quality of communication[3]
- Aim: to identify actionable items to improve paediatric health communication across all disciplines

## Methods

- Online questionnaire, targeting all hospital staff, Jan-Feb 2025
- Participant characteristics: sex, age, profession, seniority, training
- 86 Likert-Scale items (5-point, 1 = very poor, 5 = very good)
- Topics and numbers of questions
  - General satisfaction with communication (n = 4)
  - Communication in core treatment teams (n = 20)
  - Communication in extended treatment teams (e.g. external specialists / consultants) (n = 19)
  - Communication with patients / guardians (n = 14)
  - Communication training options and participation (n = 19)
  - Communication tools used (n = 10)
- Thematical grouping of 53 items and analysis as composite, test of consistency using Cronbach's alpha (≥ 0.62), Categories:
  - Primary Teams, Extended Teams:
    - Efficiency of information transfer
    - Respectful and patient-centred communication
    - Inclusion and cross-team decision-making
    - Language barriers and hierarchies
  - Patients, Guardians:
    - Relational aspects
    - Structural aspects
- Linear regression analysis: associations between thematic communication domains and overall satisfaction
- Additional single and multiple choice questions, free-text replies

| Communication tools | Core team | Extended team | Patient / Family |
|---|---|---|---|
| Telephone | 92% | 86% | 85% |
| Personal | 90% | 59% | 62% |
| EHR | 90% | 77% | 27% |
| E-Mail | 80% | 72% | 27% |

Fig. 2: Predominantly used communication channels

## Results

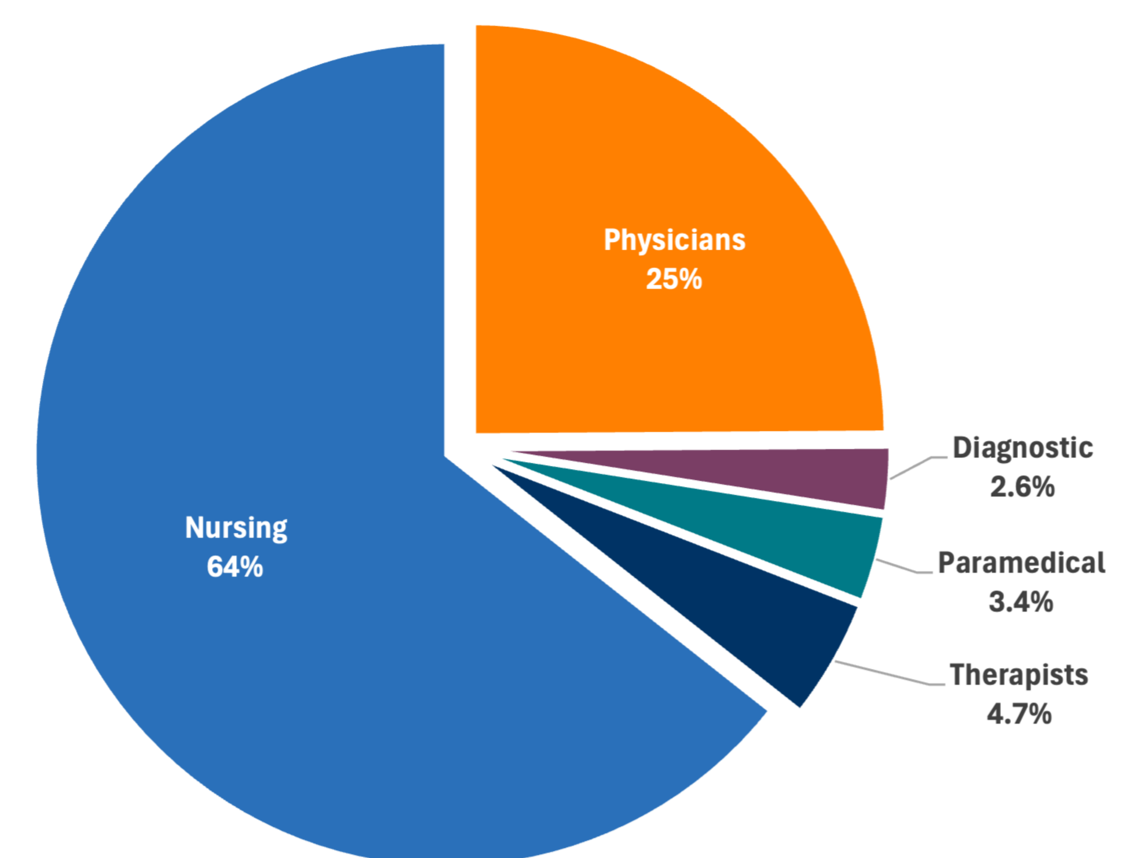


Fig. 1: Staff professional distribution

- 233/752 replies from medical staff (39% participation rate, Fig. 1)
  - Staff groups: 64% nursing, 25% physician, 4.7% therapists, 3.4% paramedical, 2.6% diagnostic
  - 88% female, 60% employed > 5 years, 16.7% still in training
- Only 32% aware of existing training options, among which 59% participated in training
  - Primary reason for not participating: time constraints (23.4%)
- Comments: lack of role clarity and information transfer protocols. Critical perception of open-notes, hierarchies, and time-constraints
- High perceived communication tool overload (M = 4.09), Fig. 2
- Strongest predictors of satisfaction within core team: mutual respect and efficiency; with extended team: mutual respect and participation; with families: relational aspects (Fig. 3)

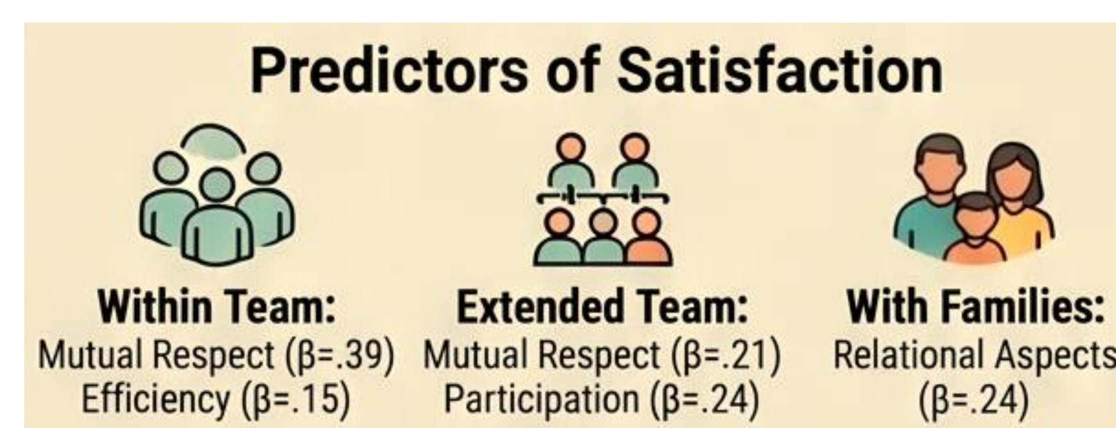


Fig. 3 Main predictors of overall satisfaction

## Conclusions

- **Training gap**: High perceived need for communication training, however low knowledge of and participation in existing trainings
- **Ambiguous Protocols:** Lack of standardized communication pathways, unclear role allocation
- **Digital burden:** Redundant communication platforms, information overload
- **Organisational culture:** Hierarchical structures, workload and time pressure

### Literature

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# From Evidence to Practice: Deimplementation of Routine Gastric Residual Volume Monitoring in Neonatal Care

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2 smarter medicine – Choosing Wisely Switzerland and Universität Luzern, Lucerne, Switzerland — project awarded in the smarter talents program 2025
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## Background and Aims

Routine gastric residual volume (GRV) monitoring remains common in neonatal care despite limited benefit and potential harm. [1-3]

Avoiding routine GRV measurements has been associated with:

- earlier full enteral feeding
- improved weight gain
- shorter hospital stay
- no increased risk of necrotising enterocolitis (NEC) [3, 4]

This evidence–practice gap represents a low-value care challenge.

Aim: To deimplement routine GRV monitoring using an evidence-based clinical strategy.

## Material and Methods

Unit-wide guideline for routine GRV deimplentation introduced on 1 December 2025:

Selective assessment only in predefined situations: [4]

- extreme prematurity (<28 weeks gestation)
- clinical signs of feeding intolerance or NEC
- postoperative gastrointestinal surgery
- abnormal gastric aspirates during nasogastric tube position verification

Implementation Strategy

- developed collaboratively with neonatal nursing staff
- supported by concise bedside checklist and
- retrospective analysis of routinely collected data from electronic health care records (Epic systems corporation, version Feb 2025)

Comparison of two corresponding 7-week periods:

- Pre-implementation: 1 Jul 2025 – 19 Aug 2025
- Post-implementation: 1 Dec 2025 – 19 Jan 2026
- All neonates receiving enteral feeds via gastric tube
- non-intensive neonatal care setting included

Primary Outcomes

Proportion of enteral feeds with:

GRV Measurement and Gastric Aspirate Assessment

## Results

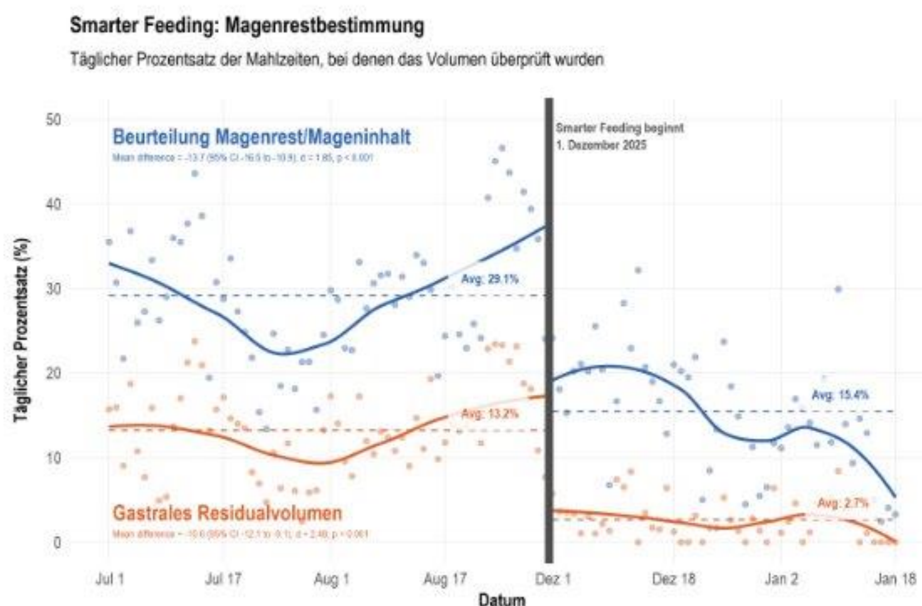
| | Pre-implementation | Post-implementation |
|---|---|---|
| Total neonates | 103 | 47 |
| Male sex | 53 (51%) | 22 (47%) |
| Gestational age, mean (SD) | 35.7 (3.4) weeks | 36.2 (3.9) weeks |
| Postnatal age, mean (SD) | 2.2 (6.2) days | 6.0 (15.1) days<br>1–54 |

GRV Measurements

- Reduced from 12.2% to 2.7% (Mean difference: −9.5 %, 95% CI −11.1 to −8.0 p < 0.001)

Gastric Aspirate Assessments

- Reduced from 27.7% to 15.4% (Mean difference: −12.3 %, 95% CI −15.0 to −9.5, p < 0.001)




## Conclusion

Deimplementation of routine GRV monitoring was feasible in our neonatal setting. The intervention resulted in a substantial reduction in low-value care.

Practice changes can be successfully integrated through:

- early interdisciplinary collaboration
- an evidence-based approach
- data analysis and visualisation

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