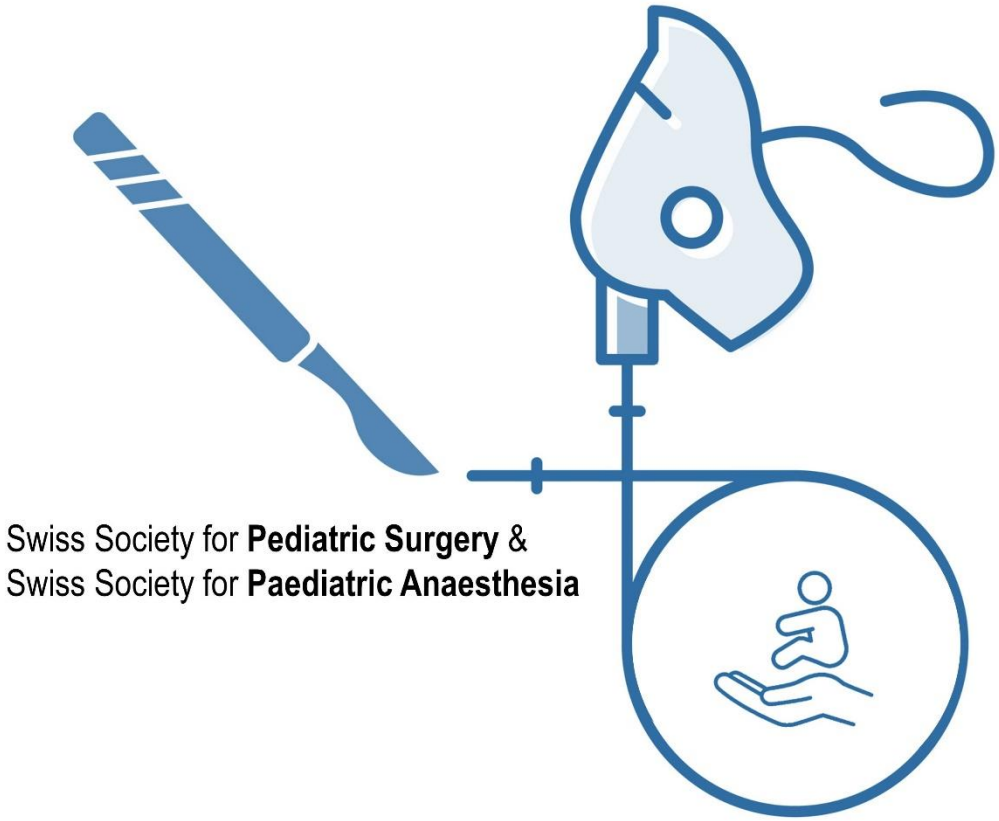

Swiss Society for **Pediatric Surgery** &
Swiss Society for **Paediatric Anaesthesia**

1st Joint Congress of Swiss Society for Pediatric Surgery and Swiss Society for Paediatric Anaesthesia

Lausanne
September 21-22, 2023

Swiss Society for **Pediatric Surgery** &
Swiss Society for **Paediatric Anaesthesia**

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Swiss Society for **Pediatric Surgery** &
Swiss Society for **Paediatric Anaesthesia**

Message from the organizing committee

Dear participant,

On behalf of the organizing committee, it is our pleasure to invite you to the 1st Joint Congress of the Swiss Society for Pediatric Surgery and Swiss Society for Paediatric Anaesthesia, taking place September 21-22, 2023 in Lausanne. For the first time, we are combining two significant meetings for Swiss pediatric surgeons and anesthetists in one major event!

Our theme for this 2023 meeting is “Inspire collaboration”. We aim to bring together colleagues and practices from all over Switzerland with an exciting and multifaceted scientific program, hoping to spark inspiring exchanges between experts in their respective subspecialties.

Let’s meet in September 2023 to connect and learn from one another!

Sincerely,

The organizing committee

Swiss Society for **Pediatric Surgery** &
Swiss Society for **Paediatric Anaesthesia**

General schedule

Thursday September 21, 2023

09:00 – 09:20	**Welcome coffee and registration**	
09:20 – 09:30	**Opening Session**	
09:30 – 11:00	**1st session: Necrotizing enterocolitis: clear as mud** 2 Selected abstracts 4 Keynote Lectures	
11:00 – 11:30	Coffee break	
11:30 – 12:30	**Prix NaCHwuchs** 6 Selected abstracts	**Air… Air… Air… - Updates in Pediatric Anesthesia** 3 Keynote Lectures
12:30 – 13:30	Lunch	
13:30 – 15:00	**2nd session: Enhanced recovery in pediatrics: the science behind** 2 Selected abstracts 4 Keynote Lectures	
15:00 – 15:30	Coffee break	
15:30 – 17:00	**3rd session: Trauma management: the known unknowns** 3 Selected abstracts 4 Keynote Lectures	
17:00 – 18:30	General assembly of SSPS / SSAP	
18:30 – 21:30	Social Event	
From 21:30	Afterparty	

Friday September 22, 2023

08:30 – 10:30	**My worst nightmare - Case discussions**
10:30 – 11:15	Coffee break
11:15 – 12:45	**4th session: Procedures and sedation: controversies** 1 Selected abstract 3 Keynote Lectures
12:45 – 14:00	Lunch
14:00 – 15:30	**5th session: New technologies: is the future bright?** 2 Selected abstracts 4 Keynote Lectures
15:30 – 16:00	**Closing ceremony**
16:00 – 17:30	Working group sessions

Swiss Society for **Pediatric Surgery** &
Swiss Society for **Paediatric Anaesthesia**

Detailed programme

Thursday September 21, 2023

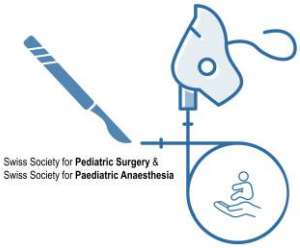
09:00 – 09:20	**Welcome coffee and registration**	
09:20 – 09:30	**Opening Session**	
09:30 – 11:00	**1st session: Necrotizing enterocolitis: clear as mud** *Moderators: Sabine Vasseur Maurer, Lausanne and Walid Habre, Geneva* Establishment of an International Registry for NEC *Ulf Kessler, Bern and Prof. Minesh Khashu, Bern* Necrotizing Enterocolitis in Term Infants: a Case report *Patricia Blum, Luzern* **When and whom to drain?** *Sasha J. Tharakan, Zurich* **Controversies around surgical techniques for NEC** *Steffen Berger, Bern* **Hemodynamic monitoring during surgery for NEC** *Andreas Berset, Basel* **Where to do surgery: neonatology or OR?** *Mirko Dolci, Lausanne and Sebastien Joye, Lausanne*	
11:00 – 11:30	Coffee break	
11:30 – 12:30	**Prix NaCHwuchs** *Moderators: Barbara Wildhaber, Geneva and Steffen Berger, Bern* Health-Related Quality-of-Life in Symbrachydactyly: Balancing Function and Appearance *Patrizia Sulser, Geneva* Endoscopic drainage for a walled-off necrosis in acute necrotizing pancreatitis in a 2-year-old child – a case report *Robin Boss, Bern* Not Hirschsprung's Disease – what now? *Sarah Metzger, Zürich* Localization of AQP1 expression in Hirschsprung`s Disease and its possible implications *Rebecca Angresius, Basel* Where there is blood there is life: 3D hDMECs for bladder tissue engineering *Dafni Planta, Zürich*	**Air… Air… Air… - Updates in Pediatric Anesthesia** *Moderator: Laszlo Vutskits, Geneva* Apneic oxygenation: standard of care? *Thomas Riva, Bern* What is new in pediatric airway guidelines? *Nicola Disma, Italy* Perioperative challenges with an asthmatic child *Walid Habre, Geneva*

	Heterogeneous tumors of the adrenal gland and retroperitoneum: benefit of using AI image-processing to facilitate assessment of IDRFs *Byurhan Rashid, Basel*
12:30 – 13:30	Lunch
13:30 – 15:00	**2nd session: Enhanced recovery in pediatrics: the science behind** *Moderators: Fanny Bonhomme, Geneva and Laura Zaccaria, Biel* Thoracoscopic cryoanalgesia of intercostal nerves for pain control after Nuss procedure for pectus excavatum: first experience in Switzerland *Ibtissam Kassite, Geneva* Point Prevalence Study of Perioperative Measures for Surgical Site Infection Prevention in Paediatric Surgery in Switzerland *Chiara Paganetti, Basel* **Opioid free anesthesia: is there a place in pediatrics?** *Thierry Pirotte, Belgium* **Behavioural postoperative issues in pediatrics** *Achim Schmitz, Germany* **What criteria for overnight stay: is there a science behind?** *Christophe Gapany, Lausanne and Maël Zurcher, Lausanne* **Equipment after surgery: drains and nasogastric tubes. Do we really need them?** *Stefan Holland-Cunz, Basel*
15:00 – 15:30	Coffee break
15:30 – 17:00	**3rd session: Trauma management: the known unknowns** *Moderators: Nicolas Lutz, Lausanne and Achim Schmitz, Germany* Management of blunt grade IV renal trauma: conservative or interventional / surgical? Our experience between 2013 and 2019 *Mazen Zeino, Bern* Operative management of a grade IV pancreatic injury *Katharina Kaltefleiter, Luzern* Traumatic spleen refracture 8 years after first embolization: management by repeated embolization associated with laparoscopic abdominal drainage and lavage. *Alberto Gubert, Lausanne* **Transfusion management in polytrauma** *Martin Krebs, Germany* **Thromboprophylaxis for the trauma patient** *Fanny Bonhomme, Geneva* **Place of laparoscopy in polytrauma** *Emilie Uldry, Lausanne* **The place of interventional radiology in trauma management: indication vs limitation?** *Matthieu Papillard, Geneva*

17:00 – 18:30	General assembly of SSPS / SSAP
18:30 – 21:30	Social Event
From 21:30	Afterparty

Friday September 22, 2023

08:30 – 10:30	**My worst nightmare - Case discussions** *Evelien Cools, Geneva, Philipp Baumann and Jorg Thomas, Zurich, Barbara Wildhaber, Geneva, Philipp Szavay, Luzern* *Moderators: Oliver Sanchez, Lausanne and Laszlo Vutskits, Geneva*
10:30 – 11:15	Coffee break
11:15 – 12:45	**4th session: Procedures and sedation: controversies** *Moderators: Sylvain Mauron, Lausanne and Valerie Oesch, Aarau* Magnetic double-J stent removal without general anesthesia in children *Vivienne Sommer, Basel* **Peripheral nerve blocks in pediatric upper limb surgery: a joint venture** *Daniel Weber and Sven Johnsen, Zurich* **Pre-hospital sedation in pediatric trauma** *Olivier Gross, Lausanne* **Procedures and sedation for trauma management in the emergency bay** *Sylvain Mauron, Lausanne, Valerie Oesch, Aarau, Olivier Gross, Lausanne, Sergio Manzano, Geneva*
12:45 – 14:00	Lunch
14:00 – 15:30	**5th session: New technologies: is the future bright?** *Moderators: Evelien Cools, Geneva and Sabine Zundel, Luzern* Educational symposium sponsored by Masimo Para-testicular injection of indocyanine green (ICG) to visualize lymphatic vessels during laparoscopic Palomo procedure for varicocelectomy *Sabine Zundel, Luzern* Early experience with CO_2-laser circumcision in children: our first year *Giuseppe Autorino, Bellinzona* **Place of 3D reconstruction in complex surgeries** *Steve Warmann, Germany* **Neuro monitoring: where are the limits?** *Laszlo Vutskits, Geneva* **Future of telemedicine in postoperative care** *Conrad Eric Müller, Basel* **New technologies: advances in pediatric surgical oncology** *Luca Pio, USA*
15:30 – 16:00	**Closing ceremony**
16:00 – 17:30	Working groups sessions



NaCHwuchs prize

Rules - Principles

The NaCHwuchs Prize of CHF 2'000 is sponsored by the Swiss Society for Pediatric Surgery (SSPS). It is awarded at the annual congress and may be awarded (or shared) for clinical or experimental research in the field of pediatric surgery. The aim of the prize is to promote the next generation of pediatric surgeons by rewarding original, high-quality research work. It is aimed at doctors who do not hold a specialist title. The competition for the prize will be announced in advance by the SSPS committee, which will review the abstracts submitted, select and organize the NaCHwuchs Prize session on the first day of the annual scientific meeting. The committee acts as a jury and determines the winner(s). The President of the SSPS will present the prize to the winner at the society's annual evening event. The prize will be presented in the form of a certificate and a cheque.

Cocktail dinner

A cocktail dinner including the visit to the **Aquarium Vivarium** will take place in AQUATIS Aquarium, fee CHF 75.- per participant.

After Party by ForKids

The Forum of young pediatric surgeons Switzerland is pleased to organize the after party of the congress. Each participant to the congress is invited to join us at the "**13ème Siècle**" bar starting from 21:30, where a refreshing cocktail or discount on soft drink awaits in exchange of the invitation card. The invitation card will be given upon registration.

Our host – Aquatis hotel

AQUATIS, situated in the charming Lausanne, is a unique complex! It invites visitors to immerse themselves in a journey on the five continents to discover the main freshwater ecosystems: Europe, Africa, Asia, Oceania and South America... an exceptional journey! Discover the most surprising freshwater environments on the planet. They will take you from one continent to another with an immersive and unique scenography, as well as with amazing species: a whole universe within reach in one place.

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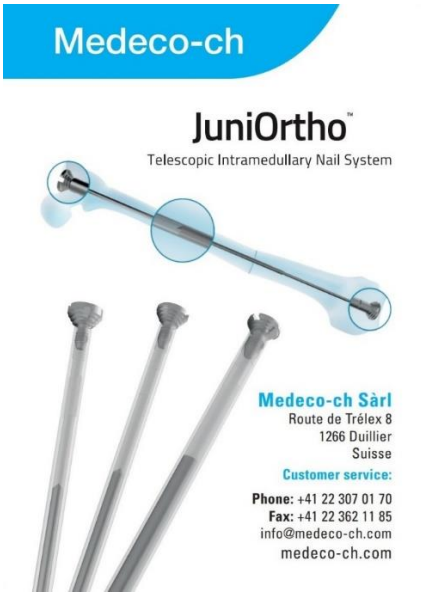

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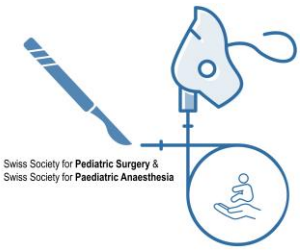

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B BRAUN
SHARING EXPERTISE

Abstract booklet

I. Oral presentations

I.1. Establishment of an International Registry for NEC

PD Dr. med. Ulf Kessler, PD Dr. med. André Kidszun, Prof. Dr. med. Steffen Berger, PD Dr. med. Eric Giannoni, Prof Minesh Kashu, Bern

BACKGROUND AND AIM
Necrotizing enterocolitis (NEC) disease is rare and not well understood in terms of epidemiology, pathophysiology, and effective treatment strategies. Significant variation in the incidence of the disease and wide variations in morbidity and mortality are observed. The lack of clear causes for the development of NEC, predictors of disease progression, and evidence on the efficacy of treatment methods may also be due to the paucity of epidemiologic studies on NEC This can be rectified by an international registry for NEC.

METHODS
We will establish a representative retrospective, prospective Swiss NEC cohort. Retrospective data from the existing Bernese dataset, all children registered in the Swiss NeoNet database (preterm infants below gestational age of 34 weeks), and all other NEC cases or FIP cases diagnosed in pediatric neonatal units in Switzerland since 2000. We will collect representative data of all patients, which will enable us to establish a platform for clinical, epidemiological and fundamental research, describe characteristics of patients with NEC and FIP, perform population-based analyses of incidence and prevalence of NEC in Switzerland, and subsequently Europe. We aim to document short and long-term outcomes of NEC to compare outcomes of different treatment modalities, analyze total, gender-specific and cause-specific mortality in this cohort, incidence of late morbidity and quality of life in the cohort and to describe the neurodevelopmental outcomes.

RESULTS & CONCLUSIONS
Results from our initial study of Swiss patients with NEC and SIP from 2020 to 2022 will be available to present if this abstract is selected.

I.2. Necrotizing Enterocolitis in Term Infants: a Case report

Patricia Blum, Johannes-Nils Molinaro, Markus Lehner, Philipp Szavay, Luzern

INTRODUCTION
Necrotizing Enterocolitis (NEC) usually affects preterm infants, but 10-15% of all cases can affect term infants with different clinical presentation.
AIM: Case report and review of the literature.

CASE REPORT
A 5-days-old girl (gestational age 40 + 4) was referred to our emergency department due to bilious vomiting and black stools. Radiological work-up showed no pathological findings. Antibiotic treatment for early onset sepsis was initialized. At the fourth day of hospitalization the abdomen was distended, and x-ray showed dilatation of the small bowel and pneumatosis. Explorative laparotomy was performed and revealed NEC affecting the small bowel. The patient underwent 4 laparotomies and resection of nearly 80% of the small bowel, which consecutively led to short bowel syndrome. During treatment, our patient suffered from multiple catheter-associated thrombosis with complete vessel obstruction.

DISCUSSION
Compared preterm infants, first symptoms can occur earlier and are more often associated with predisposing factors in term infants, e.g. congenital heart disease, perinatal stress or sepsis. A different pathophysiology in both age groups is suggested.

CONCLUSION
Though NEC usually affects preterm neonates, it is mandatory to know this differential diagnosis also in term infants with unspecific symptoms and predisposing factors.

I.3. Thoracoscopic cryoanalgesia of intercostal nerves for pain control after Nuss procedure for pectus excavatum: first experience in Switzerland

I.Kassite, FM.Haecker, W.Karenovics, J.Mengu, N.Jauquier, V.Falciola, I.Ruchonnet-Metrailler, J.Wilde, Geneva

INTRODUCTION
Cryoanalgesia of intercostal nerves (CIN) has been reported to control postoperative pain effectively and safely after Nuss procedure.
AIM: We described our initial experience with CIN for the Nuss procedure with the aim to assess its feasibility and effectiveness.

METHODS
Data on the first series of adolescents undergoing CIN during Nuss procedure were collected. Results were compared with those of a control cohort who received either epidural and/or patient-controlled analgesia (PCA). CIN was performed by thoracoscopically placing a probe (cryoSPHERE Atricure, Inc) directly on the intercostal nerve to freeze it. This was performed bilaterally from level T3 to T8. Postoperatively, patients received either a PCA for 24 hours or more recently an Erector Spinae Plane block. Primary outcomes were total postoperative intravenous morphine requirement and length of stay (LOS).

RESULTS
Both groups (CIN n=9 and control n=7) were similar regarding baseline characteristics. CIN was associated with longer operative time (141 versus 74 minutes, $p<0,01$), shorter median LOS (3 versus 8 days, $p<0,01$) and shorter time to use of only oral pain medications (1 versus 8 days, $p<0,01$). Total requirement of intravenous morphine was during hospital stay less in CIN group (0,25 versus 1,86 mg/kg, $p<0,01$). Two patients in CIN group needed pleural drainage for a bilateral pleural effusion 10 days after discharge.

CONCLUSION
This preliminary experience showed that CIN is a promising tool for postoperative pain management after Nuss procedure as it allowed for a faster discharge time and decreased the need for postoperative, intravenous morphine use.

I.4. Point Prevalence Study of Perioperative Measures for Surgical Site Infection Prevention in Paediatric Surgery in Switzerland

Ch. Paganetti, Dr. med. I. Bielicki, PD Dr. med. U. Subotic, Department of Paediatric Surgery, PD Dr. med. J. Bielicki, Department of Paediatric Infectious Diseases, University Children's Hospital Basel

Surgical Site Infections (SSI) are one of the most frequent adverse events for patient safety in children. Implementing prevention measures and monitoring compliance, are effective in reducing SSIs. In paediatric surgery evidence on prevention measures is lacking and practice depends on local guidelines and preferences. The objective of this point-prevalence study (PPS) was to monitor current practice in Switzerland for SSI prevention in paediatric surgery. A point-prevalence approach was used. After the pilot study at UKBB in the preceding year we recruited 9 Swiss paediatric surgery centres for participation together with SwissPedNet. All surgical procedures during a week in October 2022 were monitored. Demographics, surgery characteristics, and perioperative SSI prevention methods were collected from the electronic health record according to a pre-specified surveillance protocol. In total 366 procedures were carried out. Most were clean or clean-contaminated procedures on the musculoskeletal system and urinary/sexual organs. In 2/3 of cases non-antimicrobial sutures were used. Hypothermia occurred in 10 %, while usage of warming devices was poorly documented. For skin preparation alcohol-based disinfectants were as frequent as iodine-based solutions (1/3 each). For antibiotic prophylaxis, either Cefazoline or Cefuroxime (1/3 each) were used. When antibiotic prophylaxis was continued postoperatively, in about 50 % this was done without an infection or dirty wound. In this PPS we were able to give an overview over the current practice of SSI prevention methods in Switzerland. Identifying targets for improvement, variation in practice and areas lacking evidence to support standardisation of SSI prevention, requiring additional research.

I.5. Management of blunt grade IV renal trauma: conservative or interventional/surgical? Our experience between 2013 and 2019

M. Zeino, S. Viaccoz, M. Heyne-Pietschmann, M. Schmid, M. Milosevic, St. Berger, Bern

PURPOSE

To evaluate the outcome in children presenting with blunt grade IV renal trauma according to the American Association for the Surgery of Trauma (AAST), as the approach regarding a conservative versus minimal invasive or surgical treatment remains controversial.

MATERIALS AND METHODS

Between 01.2013 and 12.2019, a renal trauma occurred in 58 children out of 231 with a blunt abdominal trauma. 16 of them presenting with grade IV renal trauma were retrospectively evaluated. The mechanism of trauma, associated injuries, imaging, management, indication for intervention, length of hospital stay and follow-up were documented.

RESULTS

Among the 16 children with grade IV renal trauma, one (6%) had a renal artery dissection. All patients were initially managed conservatively and no intervention was required in six (38%) of them. Minimal invasive – ureteral stenting or coiling – was necessary in seven (43%) children and in three (19%) patients, an urgent operative intervention was performed because of either hemodynamic instability or a vascular trauma. Blood transfusion was necessary in six (38%) children. No nephrectomy was necessary and no child developed hypertonia during follow-up. However, a loss of renal function was documented in the child presenting with arterial dissection.

CONCLUSION

In about 40% of our patients with grade IV blunt renal trauma non-interventional/non-operative management was successful. Although a high success rate of conservative treatment is reported in the literature, a close follow-up in the hospital is necessary in order to identify the patients who need an intervention despite an initially conservative approach.

I.6. Operative management of a grade IV pancreatic injury

Katharina Kaltefleiter, Dr. Tobias Jhala, Luzern

INTRODUCTION
Pancreatic trauma is the fourth most common solid organ injury in children and poses unique challenges in terms of diagnosis and management due to the retroperitonal anatomy of the pancreas. This case highlights the importance of suspicion for pancreatic trauma in pediatric patients presenting with blunt abdominal trauma and emphasizes the need for prompt diagnosis and the use of appropriate imaging.

CASE PRESENTATION
We present a case of polytrauma including severe pancreatic trauma in an 8-year-old female following a fall down an embankment for 30 meters. The patient presented hemodynamically stable but with abdominal pain and tenderness. During the diagnostic work up, the eFAST showed no free fluid collection. Due to clinical presentation, a CT scan was performed showing a grade IV pancreatic injury alongside an active arterial bleeding. Furthermore, a reduced perfusion of the spleen and left kidney was seen. The patient was immediately taken for explorative laparotomy. Intra-operatively, a distal pancreatectomy and revision of the renal artery due to detected traumatic dissection was performed. The patient made an uneventful recovery.

CONCLUSION
Pancreatic trauma in pediatric patients is a rare but serious condition. In the case presented, accurate diagnosis and prompt recognition as well as surgical intervention were crucial for achieving favorable outcome. This case report emphasizes the importance of a well indicated CT scan in children when suspecting severe blunt abdominal trauma due to clinical presentation even though the US shows no sign of free fluid collections.

I.7. Traumatic spleen refracture 8 years after first embolization: management by repeated embolization associated with laparoscopic abdominal drainage and lavage.

Alberto Gubert1 ; J.X. Pacifique 1 ; Christelle Sommer1 ; Georgia Tsoumakidou2 ; Emilie Uldry3 ; Eleuthere Stathopoulos1
1Department of Pediatric Surgery, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland
2Department of Radiology, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland
3Department of Visceral Surgery, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland

INTRODUCTION
Splenic angio-embolization is safe and effective management for children with traumatic spleen injuries. Evidence about management of iterative splenic trauma is scarce.

CASE PRESENTATION
We report the case of a 14-year-old girl who presented with left sided abdominal pain following a snowboard fall. Eight years earlier she underwent embolization of the superior polar artery of splenic artery for a grade IV splenic laceration by interventional radiology. A grade III splenic laceration was diagnosed this time and non-operative management initiated. On day 4, she developed tachycardia, increased abdominal pain, persistent ileus, and had a 30 mg/dL drop in hemoglobin. A new CT scan showed an increase of the hemoperitoneum with a contrast enhanced extravasation in the left hypochondrium. A switch to surgical management with angio-embolization of the inferior polar and proximal branch of the splenic artery followed by a laparoscopic drainage of a hemoperitoneum (1.8L) and abdominal lavage were performed. The recovery was uneventful, and she was discharged on post-operative day 6. The follow-up ultrasound showed no complications.

DISCUSSION AND CONCLUSION
Non-operative management remains the cornerstone of traumatic spleen injury. However, repeated angioembolization can be considered in case of iterative traumatic splenic laceration. To our knowledge, this is the first reported case in pediatric population combining repeated angioembolization and laparoscopic drainage of hemoperitoneum and abdominal lavage.

I.8. Magnetic double-J stent removal without general anaesthesia in children

Brillat Arce W., Sommer-Joergensen V., Vuille-dit-Bille R.N., Holland-Cunz S.G., Frech-Doerfler M., Basel

OBJECTIVES
To show the feasibility of magnetic double-J-stent (mDJS) removal without general anaesthesia in infants and children.

METHODS
A retrospective analysis of mDJS removals was conducted between February 2018 and July 2020 in a cohort of 32 consecutive paediatric patients. Only patients with unilateral ureteric stenting were included. Stent retrieval was performed in an outpatient setting. In males the junction of the retrieval-catheter and the mDJS was confirmed by transabdominal ultrasound. All patients were followed-up for 4-12 weeks after stent removal.

RESULTS
Thirty-two patients (54% males) were included. Median age was 3.8 years (range 1 month - 15 years). Ureteral stents remained in place for a median of 67.5 days (range 2 days - 6 months). General anaesthesia was necessary in one single patient due to expressed patient's and caregiver's wish. Thirty-one patients had stent removal without need for general anaesthesia. Thereof, nitrous oxide was used in 12 patients (37.5%), fentanyl in 3 patients (9.4%), midazolam in 3 patients (9.4%), and 17 patients (53.1%) did not need sedation at all. Seven patients (21.9%) being 8 months or younger had received peroral saccharosis. No complications occurred during stent removal. Retrieval was successful at first catheterization in 30 patients (93.8%). Two male patients needed a second catheterization (6.3%).

CONCLUSION
The use of magnetic DJS is safe in the paediatric population and spares general anaesthesia during removal in almost all patients.

I.9. Para-testicular injection of indocyanine green (ICG) to visualize lymphatic vessels during laparoscopic Palomo procedure for varicocelectomy

Zundel Sabine, Szavay Philipp, Luzern

INTRODUCTION
Sparing lymphatic vessels during the Palomo varicocelectomy significantly reduces the rate of postoperative hydrocele. Using patent blue is established but may cause permanent discoloration of the skin. Indocyanine green (ICG) allows visualization without the risk of permanent skin discolora-tion. We describe the first case series of para-testicular injection of ICG worldwide.

MATERIAL AND METHODS
We describe the surgical technique and specifics of using ICG for the laparoscopic lymph-sparing Palomo procedure and present the data of our first nine cases.

RESULTS
With our ICG protocol, visualizing the lymph vessels and sparing them succeeded in all nine cases. Regression of the varicocele was seen in all cases, and none of the patients developed a hydro-cele. Adequate long-term follow up is still pending, but for the three patients with a one-year follow-up, we have seen a relevant catch-up growth of the left testes.

CONCLUSION
Our preliminary data suggest that ICG allows for a reliable visualization of lymph vessels when in-jected para-testicularly.

I.10. Early experience with CO_2-laser circumcision in children: our first year

G. Autorino, E. Montaruli, R. Cardone, F. Hamitaga, N. Voumard, M. Mendoza, Bellinzona

INTRODUCTION
Carbon Dioxide (CO2) laser has gained numerous applications during recent years: its use has been beneficial in dermatological, ENT and Gynecological treatments. Its advantages, especially in terms of bleeding control, appear clear even when first starting to employ the device.
AIM: The use of this new technology in a very common pediatric operation such as circumcision could widely reduce post-operative pain, swelling and bleeding.

MATERIALS AND METHODS
We started performing standard circumcision in our institution replacing the classical surgical scalpel technique with a standard CO_2 laser set with a 1.5W energy and using a continuous CW. As stated, the technique remained the same as a standard circumcision. In the majority of cases, muco-cutaneous continuity was restored using medical glue.

RESULTS
52 patients underwent surgery because of symptoms or parents' choice, one also had to undergo this operation because of numerous UTIs. The mean age of our patients was 7.4 years (4 months – 15yo). Post-operative results were very promising, with only 4 instances of post-op bleeding (7.69%) and a mean operative time of 25.8 min. One patient was excluded from this study due to a genetic mutation predisposing to bleeding.

CONCLUSIONS
Carbon dioxide laser has already changed the outcomes of treatment for numerous diseases in many fields. We believe that its employment in pediatric common operations such as circumcision could lead to a significant reduction in post-operative complications. Although a more standardized protocol is to be created, the results seem to be promising.

II. NaCHwuchs prize

II.1. Health-Related Quality-of-Life in Symbrachydactyly: Balancing Function and Appearance

Dr. med. Patrizia Sulser, Dr. med. Andreas Weber, Prof. Dr. med. Daniel Weber, Zurich

HYPOTHESIS
We hypothesized that in children with symbrachydactylies the highest HRQoL would be found in patients with the most severe forms of this malformation and that significant differences would be observed in assessments of patients' HRQoL, appearance, and function compared to their parents'.

METHODS
In this single-center, observational study, all symbrachydactyly patients treated between 2000 and 2018 were invited to participate. Patients (≥3y and their parents) were asked to complete questionnaires on HRQoL (PedsQL), appearance (ZASH,), and function (CHEQ). Patients were assigned to groups based on their ability to grasp, A: good grip (unrestricted/slightly impaired grip pattern), B: pinch only, and C: no grip (no grasping capability).

RESULTS
58 patients and parents each were included, (male, n=35). Overall PedsQL scores were high (median=89.1). Compared to the reference sample, no significant difference between overall scores was detected (p=.23). For the PedsQL sub-scales, patients consistently rated their perceived function as highest (median=93.8) and emotional sub-scale as lowest (median=87.5). When comparing patient/parent assessments, overall parental scores were significantly lower (p=0.02). The greatest sub-scale discrepancies were noted on the emotional sub-scale (p=0.03). ZASH scores were higher in patients (median=59.5) compared to parents (median=54.0), whereas CHEQ scores were concordant.

SUMMARY POINTS
• Patients with symbrachydactyly and their parents reported high HRQoL scores. Patients without grip capability demonstrated the highest PedsQL scores. • The differences in PedsQL scores between parents and patients were similar compared to the normative reference group. • Neither hand function nor appearance were found to have appreciable correlations with the PedsQL.

II.2. Endoscopic drainage for a walled-off necrosis in acute necrotizing pancreatitis in a 2-year-old child – a case report

Robin Boss, Dr. med. Dietmar Cholewa, Bern

Acute pancreatitis is a rare disease in children, but sometimes progresses with serious complications. Therefore, therapy is often challenging. A 2-year-old Boy presented to the emergency department due to repeated vomiting, abdominal pain and poor general condition. The patient underwent laparotomy on the same day due to acute abdomen and free air on CT scan. This revealed a hemorrhage of the mesentery and enlarged lymph nodes without intestinal perforation. Postoperative monitoring in the intensive care unit showed an improvement of the general condition but an elevation of pancreatic enzymes. Sonography and MRI confirmed the acute necrotizing pancreatitis with early formation of a fluid collection. As the walled-off necrosis grew, the general condition worsened and vomiting increased. To ensure enteral nutrition, a jejunal tube was placed. After interdisciplinary discussion, two intracorporeal drains leading from the walled-off necrosis into the gastric lumen were inserted endoscopically. Under these conditions, the symptoms improved markedly. The oral feeding could be built up. Further laboratory tests showed normal pancreatic function at all times. The patient was discharged with drains in place. These were removed without problems after 1.5 months. The follow-up after one year still showed a good outcome. This case nicely demonstrates that endoscopic drainage is a good way to treat a common complication of acute necrotizing pancreatitis. This type of therapy is little described in children of this age and certainly still needs a good evaluation of the suitability of each patient.

II.3. Not Hirschsprung's Disease – what now?

Sarah Metzger, Sasha J. Tharakan, Noemi Zweifel, Ueli Möhrlen, Hannah R. Neeser, Zurich

INTRODUCTION
In infants with symptoms of intestinal obstruction or defecation problems, excluding Hirschsprung's disease (HD) is imperative. However, little is known about the outcome of patients with negative HD-biopsies. Aim: We intend to characterize patients with negative HD-biopsies and provide their families with a perspective on clinical outcome.

METHOD
A total of 119 patients underwent rectal suction biopsies at our institution from January 2011 to May 2022. Retrospective data of 54 patients with negative HD-biopsies were studied. Twenty-two of these had other conditions leading to intestinal obstruction such as colonic atresia, one was lost to follow-up. Thus, 31 patients were included in this further analysis.

RESULTS
Median age at first biopsy was 9 weeks (IQR 4 – 17). Median follow-up time was 6 months (IQR 3 – 9). Symptoms at initial presentation were delayed meconium passage in 6 (19%) patients, abdominal distension in 25 (81%), explosive stool passage in 9 (29%), bilious in 3 (10%), and non-bilious emesis in 13 (42%). Two patients had rectal bleeding after biopsy with need for intervention. Twenty-eight patients (90%) needed therapy such as rectal irrigations. Defecation problems were resolved without further intervention in 30 (97%) patients, however 9 (29%) patients still used laxatives at last follow-up.

CONCLUSON
Despite complication rates being low, it is important to carefully select patients for rectal suction biopsies. Parents may be reassured that defecation problems in early infancy will resolve in most patients with negative HD-biopsies, however long-term therapy with laxatives may be necessary and clinical follow-up is advised.

II.4. Localization of AQP1 expression in Hirschsprung`s Disease and its possible implications

Rebecca Angresius, Zihe Huo, Claire Kurkowski, Natasha Whitehead, Stefan Holland-Cunz and Stephanie J. Gros, Basel

Hirschsprung`s Disease (HD) is a congenital intestinal disorder characterized by a variable length of distal colonic aganglionosis. Enterocolitis is a potentially life-threatening complication. Aquaporin 1 is physiologically expressed in several parts of the intestine including mucosa, submucosal lamina, the capillary endothelial cells and in the enteric nervous system. The aim of the study was to characterize the AQP1 expression in Hirschsprung`s Disease and correlate its expression with severity of disease including the risk for enterocolitis. Materials and methods: Tissue samples from 20 patients with Hirschsprung`s disease were examined by immunofluorescence staining and compared with control tissue. Co-staining against AQP1, β3 tubulin and AChE was carried out. Whole slide scanning was performed and AQP1, β3 tubulin and AChE expression was analysed visually regarding its anatomical expression pattern and by threshold image analysis. Results: An increase of AQP1 expression was recognized in the distal part of the affected colon tissue in Hirschsprung patients compared with control tissue in correlation with β3 tubulin and AChE expression. While AQP1 is known to be physiologically expressed in vascular endothelial cells and in ganglia of the enteric nervous system, in these patients this particular localization is missing, however we found an increased expression in the mucosa. Conclusion: A distinct pattern of AQP1 expression could be observed in the colon of patients with Hirschsprung`s Disease, suggesting an imbalance in membrane water permeability, which might directly impact on development of enterocolitis, as well as hinting towards a regulatory role of AQP1 in the enteric nervous system.

II.5. Where there is blood there is life: 3D hDMECs for bladder tissue engineering

Dafni Planta, Tim Gerwinn, Souzan Salemi, Maya Horst, Zurich

INTRODUCTION
Bladder tissue engineering with autologous cells might represent a solution for treatment of children with end stage bladder diseases. One of the biggest obstacles on the way to engineered bladder substitutes is the lack of vascularization, leading to early tissue fibrosis.

AIM
We aimed to improve an established collagen hydrogel by adding capillary networks. The novel approach is to use 3D spheroid cultures, previously established by our group, that are believed to have superior angiogenetic potential over conventional 2D cell culture. Methods: Human dermal microvascular endothelial cell (hDMECs) were isolated from foreskin biopsies, expanded as 2D hDMECs and formed into spheroids. Human smooth musce cells (SMCs) were isolated from bladders and expanded accordingly. Collagen hydrogels serving as carrier matrices were seeded with a co-culture of 3D SMCs/2D hDMECs or 3D SMCs/3D hDMECS and incubated for three weeks in vitro. Expression of the SMC specific differentiation and contractile markers Calponin, Smoothelin and MyH11 was quantified on the genetic expression level and protein level. Accordingly, expression of endothelial cell marker CD-31 was quantified and capillary branching points were counted.

RESULTS
3D SMCs/3D DMECs in collagen hydrogel presented a significantly higher CD-31 expression on gene and protein level as well as more branching points compared to the other condition. No difference was seen in the expression of the contractile SMC markers.

CONCLUSION
3D hDMECs colonizing a collagen hydrogel with 3D SMCs show a superior capillary network compared to 2D hDMECs, thus showing promise for clinical translation and future bladder tissue engineering applications.

II.6. Heterogeneous tumors of the adrenal gland and retroperitoneum: benefit of using AI image-processing to facilitate assessment of IDRFs

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INTRODUCTION
Tumors in the location of the adrenal gland present very heterogeneously in children. While they can be benign incidentalomas they can also present as high-risk neuroblastoma. Clinical risk assessment as well as radiological image defined risk factors (IDRF) can help to assess the nature of tumor tissue preoperatively. The mainstay modality for the evaluation of these tumors is the MRI. Both quality of MR imaging and its low availability, especially in low- and middle-income countries (LMIC), can present major limitation. Aim: The aim of this study is to define whether using low cost image refinement AI can improve MR imaging, recognition of IDRFs by surgeons, and help determine the course of treatment in retroperitoneal lesions.

METHOD
14 children with retroperitoneal lesions operated in our clinic were included in the study. 5-12 2D MR images per patient, were identified by an experienced radiologist. T2 sequence of MRI after application of contrast agent were chosen, depicting relevant IDRFs.

RESULTS
The relevant, IDRF presenting images were processed using the commercially available VanceAI platform. Unprocessed and processed images were evaluated by paediatric surgeons independently. Improving image quality of the low-resolution images using the readily available software facilitated the identification of certain IDRFs for the surgeon, especially regarding separation of blood vessels and neighbouring structures from the tumor.

CONCLUSION
Using readily available AI to improve post-radiology image quality could facilitate the determination of resectability of tumors by IDRFs. Especially in LMICs it could present a cost effective measure to optimize MRI time and infrastructure.

III. ePosters

III.1. Consequences of associated malformations on prevalence and size of omphaloceles: A retrospective study of 162 cases

Gallien Parata, Yvan Vial, Marie-Claude Addor, Jean-Michel Pellegrinelli, Barbara E. Wildhaber, Geneva

BACKGROUND
Omphalocele is known to be associated with various anatomical and genetic abnormalities. To date, it is unclear if and how concomitant malformations and omphalocele size correlate. This retrospective study aims to observe the consequences of omphalocele-associated congenital malformations, genetical anomalies or syndromes on pregnancy course and omphalocele size.

METHODS
Cases were selected from digital records of two university centers, a certified regional registry and personal records. Patients with omphalocele and live birth (LB), termination of pregnancy due to fetal anomaly (TOPFA) and fetal death (FD) from 1998-2018 were included. Cases born outside Western Switzerland and/or with upper or lower coelosomy were excluded.

RESULTS
We analyzed 162 cases with the following distribution: 57 (35%) LB, 91 (56%) TOPFA and 14 (9%) FD. Total prevalence was 3.6/10'000 and LB prevalence was 1.5/10'000. TOPFA were significantly more frequently performed in cases with non-isolated omphalocele, i.e. omphaloceles with associated major malformations (especially cardiovascular and genitourinary anomalies), genetic/chromosomal anomalies, or syndromes. Associated anatomical malformations, genetic or chromosomal anomalies were not significantly associated with tthe size of the omphalocele or the liver involvement.

CONCLUSION
The proportion of cases resulting in TOPFA was higher among fetuses with major malformations, genetic or chromosomal anomalies. Despite the large size of this cohort, and in contrary to previous publications, the size of the omphalocele and/or liver involvement does not allow for conclusions regarding the presence of number of associated malformations, genetic or chromosomal anomalies. To allow for further multicenter studies, a standardized case report form is proposed.

III.2. COMPLICATED PANCREATITIS REVEALING DUODENAL CYST

Joseph Xavier PACIFIQUE, Nicolas JAUQUIER, Sebastien GODAT, Natalie DIVJAK, Sabine VASSEUR MAURER, Alberto GUBERT, Lausanne

Duodenal duplication cysts (DDC) are rare congenital abnormalities which account for 5% to 10% of gastrointestinal duplications (1) and which are generally diagnosed in the first decade of life (2). Clinical presentation of DDC is highly variable and may be revealed by symptoms ranging from abdominal pain, to obstructive jaundice (3), to pancreatitis (acute, recurrent, chronic), to failure to thrive (4). The management of DDC depends on their localisation in the duodenum and their position with regards to the major papilla. Pancreatic pseudocysts (PPC) develop in 15% of patients with acute pancreatitis and 40% of patients with chronic pancreatitis (5). We present the case of a two-year-old girl who presented to the emergency room with abdominal pain, bloating, vomiting and failure to thrive lasting for 3 months. An abdominal ultrasound was performed initially which showed multiple intra-abdominal cystic formations. This was followed by a CT scan which showed various pseudo cysts compatible with a complicated pancreatitis. An MRI, performed to investigate the aetiology of the pancreatitis, distinguished between the multiple PPC and a DDC. We hypothesise that the pancreatitis was of obstructive origin due to the DDC. A two- step procedure was initially scheduled with endoscopic trans-gastric drainage of the larger PPC and supportive care for the pancreatitis, followed by surgical resection of the DDC. Unfortunately, the patient developed sepsis due to infection of the PPC. As surgery was required to treat the sepsis, the DDC was resected at the same time.

III.3. Patients with congenital diaphragmatic hernia and their characteristics – a retrospective cohort study at Zurich

F.Schüpbach, N. Zweifel, H. Neeser, S. Tharakan,L. Vonzun, N. Ochsenbein, U. Möhrlen, Zurich

BACKGROUND
The congenital diaphragmatic hernia remains a severe condition with significant morbidity and mortality until today. Of various prognostic factors the intrathoracic position of the liver and the lung to head ratio (LHR, respectively o/e LHR) are the most reliable ones. Fetal interventions to enhance lung growth were proven beneficial in more severe cases.

METHODS
Retrospective analysis of 101 patients treated for left or right sided congenital diaphragmatic hernia at the at the University Children's Hospital Zurich during 2000 and 2020 was performed. The primary question was whether Permacol™patch repair had a higher rate of recurrence than Gore-Tex® patch repair. Moreover, various patients' characteristics and outcome parameters were analyzed.

RESULTS
We saw an overall survival rate of 78.2% and a survival rate of 89.6% in operated patients. The recurrence rate was 11.4% 38ccurring at a median of 263 days. Prognostic markers like intrathoracic liver position, LHR and o/e LHR were reproducible. No statistical significance was found regarding the recurrence and the eoperation rate between the patch repair and the primary closure groups nor between the Permacol® and the Gore-Tex® groups. Also, no association of chest deformity and scoliosis with patch repair nor with either patch material was observed.

CONCLUSION
Taken together, we saw similar results in the international comparison. The discussion about which patch should be used for the hernia repair is still controversial. We could not demonstrate the superiority of one material. However, further studies are necessary to further elucidate this question.

III.4. Torsion of an accessory liver lobe in a newborn

Tobias Krause, Dietmar Cholewa, Benjamin Liniger, Steffen Berger, Milan Milosevic, Bern

AIM

Accessory liver lobes are rare. Especially in neonates, possible symptoms, diagnostic workup and outcome of this entity are not described. We present the rare case of torsion of an accessory liver lobe in a neonate.

CASE DESCRIPTION

A 13-day-old boy presented with failure to thrive and hematemesis without fever. The initial workup with sonography, MRI, and upper GI study was suspicious of a duplication cyst, most likely in the posterior wall of the stomach. Laboratory and radiological findings were not suggesting a choledochal cyst. We performed a laparotomy with resection of the 3.2 x 2.1 x 1.1 cm mass. Intraoperatively, the cystic formation extended from of the liver bed up to the lesser curvature of the stomach. The mass was attached to the left liver lobe with fibrous bands. Histopathology revealed necrotic liver parenchyma with patent viable biliary ducts, indicative of an accessory liver lobe that underwent torsion in the perinatal period. The postoperative course and follow-up (3 months so far) was uneventful.

CONCLUSIONS

To our knowledge, this is the youngest described patient in the literature with an accessory liver lobe torsion and the second case report concerning this entity in a neonate. It presents an extremely rare differential diagnosis in symptomatic neonates with a cystic mass in the upper abdomen.

III.5. Risk factors for intestinal complications after pediatric liver transplantation

Sindy Pires, Valérie A. McLin, Ana M. Calinescu, Nathalie M. Rock, Barbara E. Wildhaber, Geneva

BACKGROUND
Intestinal complications (IC) can seriously threaten patients after liver transplantation (LT). However, little research has been done in children. This study aims to describe IC after pediatric LT (pLT) and to identify their risk factors (RF).

METHODS
Retrospective review of 153 pLT patients, aged 0-18 years, treated in the Swiss pediatric liver center in Geneva, analyzing pre-, per- and post-operative data. IC were defined as pathologies or lesions directly associated with pLT and related to the surgical procedure.

RESULTS
16/153 (11%) patients developed IC: 10/16 intestinal obstructions, 4/16 intestinal perforations and 2/16 sub-mesocolical abscesses. IC patients had a significatively lower BMI (15.5 vs. 16.4, p=0.019) and a lower serum creatinine (20 vs. 29 umol/L, p=0.059). Significatively more children had a history of prior Kasai operation associated with Ladd procedure (13% vs. 2%, p=0.055), a history of per-operatively treated intestinal perforations (31% vs. 5%, p=0.003) and longer pLT-surgery (536 vs. 415 minutes, p=0.007). Significatively more children with IC had received Basiliximab for immunosuppression (69% vs. 40%, p=0.048). Patients with IC presented more post-pLT sub-occlusions (p<0.001) and a higher need of post-pLT parenteral nutrition (p=0.027). IC was associated with significantly more reoperations (p<0.001).

CONCLUSION
Post-pLT IC are frequent and associated with important morbidity. Nutritional status pre-pLT appears to be a RF, including the presence of sarcopenia, and also the need for adhesiolysis and thus longer surgery. Basiliximab-use may contribute to post-pLT IC. The presence of these RF should alert medical care teams to allow for early diagnosis in patients after pLT.

III.6. Corpus cavernosum fibromatous tumor of the penis: a case report

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OBJECTIVE

Fibromatous tumors of genital organs are rare, and their exact incidence remains unknown. The use of platelet rich plasma injections is being actively implemented especially in the treatment of some musculoskeletal diseases. We report the case of a young patient with a corpus cavernosum fibromatous tumor of the penis treated with platelet rich plasma injections thus avoiding radical surgery.

CASE REPORT

A 15-year-old boy consulted for a painful left lateral curvature of the penis visible during erections, with a 20° angulation, without any history of prior trauma. On the clinical exam, there was a palpable, nodular lesion of the distal half of the left corpus cavernosum. Ultrasound followed by MRI of the penile shaft revealed an infiltrative hypervascular process in the corpus cavernous of unknown origin. Oral treatment with nonsteroidal anti-inflammatory drug was initiated with no successful results, motivating diagnostic biopsy. The histopathological analysis revealed a localized fibrosis of the corpus cavernousum inclosing the smooth muscle fibers of the vessels. To avoid radical surgery, intralesional injections of platelet rich plasma associated to vacuum-therapy and phosphodiesterase 5 inhibitors were initiated. A total of six sessions were performed followed by clinical regression of the lesion.

CONCLUSION

A fibromatous tumour of the penis should be considered in the differential diagnosis of any penile mass. This rare benign entity should be confirmed histologically to rule out any malignant lesions. Treatment with platelet rich plasma, vacuum therapy and PDE5I should be considered to avoid unnecessary radical surgery.

III.7. Fibroepithelial polypof the lower third of ureter: rare pathology of upper urinary tract obstruction in children. A case report.

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PURPOSE
Fibroepithelial polyp (FEP) of the ureter is a benign tumor of mesodermal origin that rarely occurs in children. It is more frequently in boys and often arises in the proximal ureter and the ureteropelvic junction. The most common presenting symptoms are hematuria and flank pain by obstruction of the urinary tract.

MATERIALS AND METHODS
We report a case of FEP in a 14-year-old boy who was presented in our unit with severe flank pain of the left side. Imaging with ultrasound and native CT scan showed a stone blocking the ureteric orifice. DJ stent was inserted and left for 4 weeks, the child was stone free without any symptoms. During follow up after 6 months, ultrasound showed severe hydronephrosis and dilatation of the proximal ureter on the left side. No stones were seen in the native CT scan. Further imaging and uereteroscopy (URS) showed a polyp in the lower part of the ureter. Endoscopic laser resection and removal of the polyp was performed. Histology of the resected tumor revealed a fibroepithelial polyp.

RESULTS
The follow-up after one year showed good outcome without hydronephrosis.

CONCLUSION
Despite the rarity of fibroepithelial polyp, it should be kept in mind in the differential diagnosis of upper urinary tract obstruction.

III.8. Severe open bimalleolar ankle fracture in a trampoline park: a case report

Christoph Matissek and Trauma team, St. Gallen

We present the case of an 11 year old boy, who suffered a second degree open ankle fracture in a trampoline park. Initial treatment consisted of closed reduction and temporary wound coverage. After several days osteosynthesis and secondary wound closure was performed. MRI showed accompanying injuries, which could be treated conservatively. Trampoline injuries are still on the rise and especially Trampoline parks carry a high risk for severe injuries. We highlight the need for better prevention strategies.

III.9. Indocyanine green (ICG) fluorescence imaging: Application for endoscopic third ventricu-lostomy (ETV) in an infant.

Lehner Markus, Luz Hannah, Brändle Leonie, Esslinger Peter, Szavay Philipp, Luzern

INTRODUCTION
Endoscopic third ventriculostomy is a treatment option for congenital hydrocephalus in infants and small children with obstructive hydrocephalus. Visualization of the basilar artery through the closed floor of the third ventricle is crucial to perform this minimally invasive procedure.

AIM
ICG fluorescence imaging was applied intraoperatively for better visualization of the basilar artery and its branches.

METHOD
ETV was carried out. Prior to the perforation of the floor of the third ventricle ICG was applied in a standard dose of 0.25mg/ml in fractionated doses of 0.5-1.0ml.

RESULTS
ICG visualization of the basilar artery and its branches prior to opening the floor of the third ventricle ICG provided a clear and safe aspect to perform the ETV. To our knowledge it was the first time ICG was used in a neuroendoscopic procedure in an infant.

CONCLUSION
Application of ICG fluorescence imaging for a neuroendoscopic procedure was feasible and with-out side effects. Further research for the application of ICG fluorescence in neuroendoscopy is necessary in order to provide evidence on that demanding procedure.

III.10. Trichobezoar and Rapunzel syndrome: management and surgical modifications

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INTRODUCTION
Trichobezoars are dense impactions of indigestible hair in the gastrointestinal tract, mostly located in the stomach and affecting young and adolescent females with an underlying psychiatric disorder of trichotillomania and trichophagia.

CASES:
We here report clinical presentation, diagnostic workup, management and surgical modifications of two cases of trichobezoar and Rapunzel-syndrome in patients aged 11 and 12. Surgical management is improved by using an Alexis-retractor which avoids spillage. Transection with scissors of longer trichobezoars in case of an Rapunzel syndrome also facilitates surgical removal.

CONCLUSION
Being a rare entity affecting mostly females in early/ middle childhood up to adolescence, trichobezoar must be considered in adolescents as a cause for abdominal pain and wheight loss. In our reported cases, transection of the large bezoar and use of an Alexis retractor allowed for relatively easy and spillage-free removal through a small incision. Further on, psychological counseling is needed for most patients, for an unrecognized psychiatric disorder is the most common cause of this entity.

III.11. Splenogonadal fusion: Incidental finding during elective orchidopexy

V. Forschbach, Zurich

Splenogonadal fusion is a rare congenital anomaly, defined by the presence of ectopic splenic tissue caused by an abnormal connection between the spleen and the gonad or mesonephrotic derivatives during the embryonic period. Most cases are diagnosed in childhood as it is associated with cryptorchidism and although it is possible for both sexes to be affected, males present more often than females. When it has not been diagnosed at a young age it can appear clinically as a testicular mass in adults and has sometimes resulted in unnecessary orchiectomies. We present a case of incidentally diagnosed splenogonadal fusion in an 11 months old male during elective orchidopexy. Recognising splenic tissue a diagnostic laparoscopy was indicated with ensuing laparoscopic treatment of the continuuous splenogonadal fusion using Ligasure. Hereafter the orchidopexy was performed without tension within the same operation. We discuss the embryology leading to splenogonadal fusion and the possible presentations, in our case we can present the intraoperative findings of a continuous splenogonadal fusion with the treatment of this case using Ligasure. We discuss an overwiew of treatment options for splenogonal fusion as well as the postoperative follow-up of our case. As this is a case report our aim is to present a clinical entity that is known in literature but has is not seen on a regular basis.

III.12. Long term follow-up of continent catheterizable channels (CCC) in children: Outcomes of the Mitrofanoff procedure in a retrospective single center-study

Adriana König, Ashley Wiseman, Isabelle Vidal, Jacques Birraux, Geneva

INTRODUCTION
Currently, multiple variations of the Mitrofanoff procedure exist. Studies show a 20% to 60% complication rate, with difficulties encountered in assessing which technique is associated with the least complications. AIM: This study aimed to evaluate the complications and long-term outcomes of the Mitrofanoff procedure in our cohort.

METHOD
We reviewed medical records from children operated on CCC between 01/01/2007 and 31/12/2019, in our department. CCC creation was standardized, prioritizing use of the appendix as conduit with VQZ plasty technique.

RESULTS
31 patients were included, with a median follow-up time of 7.5 years (12 months - 12.5 years). The appendix was used in 30 patients, and a VQZ-plasty in the right lower quadrant in 29. Seven CCC dysfunctions (five difficulties to pass the catheter, one CCC incontinence, and one parastomal hernia) were recorded, of them, two were managed conservatively, two endoscopically, three by open surgery. Two patients had other general post operative complications (one intestinal obstruction and one vesical stone). The majority of complications were encountered within the first two years postoperatively. At the time of the study, patients were in average 15 years old and 97% used their Mitrofanoff stoma regularly, with no CCC incontinence.

CONCLUSION
Our study underscores the suitability of the appendix in providing a durable CCC in the Mitrofanoff procedure. With adherence to a strict protocol, this procedure can result in a low risk of complications and offer satisfactory long-term outcomes.

III.13. Necrotizing fasciitis in children with varicella infection

Jonathan Lovis, Dr. med. Pascal Heye, Prof. Dr. med. Jörg Grünert, Dr. med. Thomas Krebs, Prof. Dr. med. Franck-Martin Häcker, St. Gallen

INTRODUCTION

Varicella infection is a common infection in children. Even though bearing low mortality rate, it can lead to fatal complications, such as necrotizing fasciitis. In some patients, prompt diagnosis and immediate surgical treatment is mandatory to avoid serious complications and to ensure the best outcome. We present two cases from our recent experience.

CASE PRESENTATION

The first case is an 8-year-old, female patient with varicella infection for 3 days, now presenting with a necrotizing fasciitis in the left groin. Prompt surgical and antibacterial treatment was ensured. Nevertheless, she developed a wide substance defect (17x11cm). In order to achieve complete wound healing and best cosmetic result, she underwent a pedicled RAM-flap (rectus abdominis myocutaneous flap). The postoperative course was uneventful. The second case is a 6-year-old male patient with a pre-existing syndrome including nephrological pathologies. He presented with varicella infection also lasting for 3 days. He showed a reduced general condition and a pale, mottled and varying cyanotic integument. The clinical condition was interpreted as urosepsis, and an antibacterial therapy installed immediately. Later on a growing, livid coloration of the right hemiscrotum was noticed. With the diagnosis of necrotizing fasciitis, surgical debridement was performed immediately. However, postoperatively the patient was hemodynamically instable, with ultimately exitus letalis.

CONCLUSION

With our report, we want to remind emergency care providers and pediatric surgeons to stay alert to those rare complications even in patients presenting with a “banal” illness. In these patients, surgical treatment of necrotizing fasciitis must be performed immediately to minimize mortality.

III.14. Pediatric pseudosequestration: a rare challenge

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BACKGROUND
Pseudosequestration is a malformation implying a systemic arterial supply to normal lung. Management is not standardized, especially in the pediatric age. We aimed to perform a meta-analysis including two unpublished reports from our institution, with the aim of identifying complications and their risk factors associated with pseudosequestration.

METHODS
We screened Medline/PubMed for studies with a reported age ≤18 years at first symptoms and/or diagnosis and recorded patients' age, sex, lung side, origin/size/number of aberrant systemic artery (ASA), ASA/aorta diameter, symptoms, complications, procedures and outcome including post-interventional complications. Univariate/multivariate logistic regressions and Chi-square/Fisher tests were used for statistical analysis.

RESULTS
Forty-five patients were included. The lower left lobe was predominantly affected and the most common ASA-origin was the thoracic aorta. Main complications were hemoptysis (29% of cases) and cardiac involvement (44%). Hemoptysis showed a mean onset at 12.5 years, with 8% of patients presenting hemoptysis <6 years, and correlated with multiple ASA-origin (p=0.026) and age (p=0.002), with a five-times increase in risk every approximately three years (OR=4.72). In older patients, an increased risk of hemoptysis was observed with increasing ASA/aorta diameter. Cardiac involvement showed correlation with age (p=0.0166). Embolization was the preferred procedure (29%), notably since the 2000s. Early intervention, particularly by embolization, showed an excellent prognosis associated with rare complications.

CONCLUSION
Reports of pseudosequestration reveal hemoptysis and cardiac involvement as major complications. Multiple ASA-origin and increased ASA diameter in patients >6 years should prompt intervention.

III.15. An unexpected complication of a mesenteric lymphangioma: A case report

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INTRODUCTION
Mesenteric cystic lymphangiomas (MCL) represent a minor portion of all cystic lymphagiomas. More than a half are symptomatic before the age of two, which make MCL a pediatric pathology. Intestinal obstruction, infection, hemorrhage or torsion of the cyst are the main complications reported.

METHODS
We present the case of a 7 year old boy, who consulted the pediatric emergency for acute abdominal pain a few hours after a fall on the abdomen. The workup revealed an uncomplicated intra-abdominal cystic mass. Two months later, while waiting for surgery, he fell on the abdomen and consulted for fever, vomiting, severe abdominal pain. Abdominal ultrasound and MRI revealed a reduction of the size of the cyst filled with an air-fluid level. Differential diagnosis included an intestinal duplication cyst and a mesenteric cystic lymphangioma fistulating in the digestive tract.

RESULTS
Six weeks after an initial antibiotic iv treatment with excellent response, he underwent a bloc resection of a 15cm mass, with end to end intestinal anastomosis. Post op evolution was uneventful, the patient was fully fed and discharged at day 4 after surgery. Pathology analysis revealed a fistula between the intestine and a cavity of the cystic lymphangioma.

CONCLUSION
The interest of this case is to describe an uncommon and unexpected infectious complication of a mesenteric cystic malformation, with delayed surgical management from the acute infectious episode.

III.16. Transverse testicular ectopy and an incarcerated inguinal hernia – a case report

Kordasz M, Mack A, Matissek C, Krebs F, Häcker F-M, St. Gallen

Transverse testicular ectopy (TTE) is a rare anomaly, with descent of both testes through the same inguinal canal. Various forms of this anomaly exist, the most common presenting with two separated spermatic cords and testicular vessel bundles. The management of this condition represents a challenge, since various factors have to be considered . We report the case of a 2-month old preterm boy with TTE, admitted to the hospital due to an ipsilateral incarcerated inguinal hernia. Diagnostic work-up and surgical treatment will be presented , as well as a review of the current literature. The patient was born at 33rd gestational week. Clinical examination revealed TTE with patent processus vaginalis on the right side. Watchful waiting was planned. However, six weeks after birth the patient presented with a huge swelling of the inguinal groin to our emergeny department. Clinical examination confirmed diagnosis of incarcerated, but finally reducible inguinal hernia on the TTE side., The patient underwent a diagnostic laparoscopy and herniorrhaphy. Watchful waiting and observing of the spontaneous descent was planned. However, one month later the patient presented again with an incarcerated and now not reducible inguinal hernia on the right side. Immediate inguinal herniotomy and bilateral, transseptal orchidopexy was performed. Postoperative follow-up was uneventful, and clinical examination 6 months after surgery showed both testicles in scrotal position with symmetric volume. Further follow-up appointments are scheduled, partially in collaboration with our endocrinologist experts. Care must be taken when treating TTE, especially in the coexistence of an inguinal hernia.

III.17. Pediatric macroposthion: a case report

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INTRODUCTION
Macroposthion is characterized by an extensive, redundant part of the prepuce reaching beyond the glans, sometimes representing more than three-quarters of the length of the entire penis. We present a case of a young patient affected by acquired macroposthion, who underwent surgical excision of the dartos, cutaneous penial shaft plasty and circumcision.

AIM
To discuss a case of macroposthion and its surgical treatment in a pediatric patient.

METHOD
A healthy 11 year-old boy with a history of left Shoemaker-orchiopexy presented with a progressive preputial enlargement causing esthetic and practical trouble with regards to hygiene. He never experienced any balanoposthitis. Physical examination found a 13cm-long penis, with 10cm constituted only of wrinkled preputial skin. Urogenital ultrasound showed no further anatomical anomalies other than dilation of the vascular network in the dartos layer.

RESULTS
Surgical intervention was offered and accepted by the patient and his family. Thus, a standard circumcision along with the resection of the macroscopically pathological excessive dartos layer and a ventral two-part skin-flap penial plasty was performed. Histological examination of the specimen did not show any malignancy.

CONCLUSION
Macroposthion can either be congenital or acquired. In symptomatic cases, early surgical intervention is advised. However, macroposthion remains a rare disease overall, usually symptomatic during childhood [Fahmy, 2020]. There are several surgical techniques described in the literature, comparable to the correction of a megaprepuce [Werner et al., 2019], a related but distinct disease. In summary, there is insufficient data to draw conclusions regarding the superiority of one of these techniques.

III.18. Glans Penis ischemia after meatoplasty or circumcision: case series and review of literature

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INTRODUCTION
Postoperative glans ischemia is a very uncommon condition in the paediatric population. Although rare, glans ischemia should be suspected in cases of dark discoloration of the skin with or without pain, after penile surgery. While glans ischemia after circumcision has been sporadically reported, we present 3 such cases and the first case of glans ischemia after meatoplasty.

PRESENTATION OF CASES
We report the clinical presentation, treatment and outcomes of glans ischemia in four patients, aged between 4 and 12 years old, in three different paediatric surgery centres in Switzerland. Three cases occurred after circumcision, and one after meatoplasty. All procedures were performed under general anaesthesia, with three patients receiving a dorsal penile block and one patient receiving spinal anaesthesia. In absence of a clear and defined aetiology, through a review and analysis of cases and treatment in the literature, a combination of prostacyclin, heparin, antibiotic and testosterone or nitroglycerine cream treatment was started and a complete restitution ad integrum was achieved in all patients.

DISCUSSION
Despite being well-standardized procedures, circumcision and meatoplasty are not devoid of complications, such as glans ischemia, that require urgent treatment. The aetiopathogenesis of glans ischemia after meatoplasty and circumcision remains unclear and management guidelines for this condition are lacking. All reported cases have demonstrated favourable outcomes, even with different treatment approaches. Considering the wide variety of currently reported treatments, it is not possible to offer a standardised care path for this rare complication.

III.19. Robotically assisted retroperitoneal approach in children: Pyeloplasty in a 9-year-old boy

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Video Case Report Robot-assisted laparoscopic pyeloplasty (RALP) is gaining popularity among pediatric urologists. Few studies have evaluated the retroperitoneal approach. We report the case of a 9-year-old boy with a prenatal diagnosis of bilateral non-refluxive hydronephrosis. On follow-up ultrasound, there was an increase in right hydronephrosis with an AP Diameter reaching 3 cm associated with parenchymal thinning as well as a hypotrophy of the left kidney. The MAG3 Renal scintigraphy revealed a split renal function of 24% for the left kidney and a cumulative excretion curve of the right kidney. The patient underwent robotically assisted retroperitoneal right pyeloplasty. The child was placed in the lateral position. Three 8-mm robotic ports and one 8-mm AirSeal® iFS System assistant port were placed according to an imaginary line drawn from the iliovertebral angle to the iliac fossa. The ureteropelvic anastomosis (Anderson-Hynes pyeloplasty) was done using a 6/0 monofilament absorbable running suture over a double-J stent. An indwelling Foley catheter was kept for 24 h and the patient was discharged on day one postoperatively. Prophylactic antibiotics were administered until the JJ removal in 6 weeks. The follow up renal ultrasound done at two and six months postoperatively showed a decrease in pelvicalyceal dilatation. The MAG 3 Renal Scintigraphy done at 6 months postoperatively revealed a stable left split renal function reaching 28% and an improvement of the excretion curve of the right kidney. Retroperitoneal robotic renal surgery is feasible, safe, and effective in the paediatric population.

III.20. Laparoscopic splenopexy using single stiches for a spleen volvulus in an 11-year-old girl

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INTRODUCTION
Wandering spleen is a rare condition in children which is characterized by the absence of normal splenic attachements allowing torsion of the splenic vascular pedicle resulting in ischemia. Historically, splenectomy was the preferred treatment. Recently, spleen preservation by laparoscopic detorsion and splenopexy has been advocated in the pediatric population. Nevertheless, there is no consensus for the optimal surgical approach.

CASE PRESENTATION
We report the case of an 11-year-old girl presenting with left upper quadrant pain lasting for 24 hours after the short-lived appearance of an epigastric bulge. She fell while skiing the previous day. A CT-scan demonstrated findings consistent with splenic volvulus without distal arterial flow. An exploratory laparoscopy was performed with detorsion of the spleen and splenopexy to abdominal wall with two non-resorbable V-Locks. She was discharged on day 2. The 2-month follow-up ultrasound showed a normal vascularization of the spleen except for a small portion of the upper pole. Discussion: Laparoscopic approach and splenopexy is the preferred technique except for patients with massive splenic infarction or splenic vessels thrombosis. The splenopexy techniques most commonly used include: direct suture of the spleen to the abdominal wall or the diaphragm, creation of a retroperitoneal pouch, or the use of a mesh.

CONCLUSION
Splenic volvulus requires a prompt surgery to prevent complications. Several minimally invasive techniques have been suggested and we report here our experience with a laparoscopic procedure with simple direct stiches between the hilum and the abdominal wall.

III.21. Evaluation of the UV protection of compression garments and different materials used for burn and scar management

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BACKGROUND
UV rays are harmful during the wound and burn healing process, potentially leading to scar pathologies; patients therefore need to be protected from the sun for several months. The aim of this study was to determine the sun protection provided by different materials used in scar management.

METHOD
Eighteen scar and burn management materials were tested in this study. We analyzed the percentage transmission of waves corresponding to UVA (316-400 nm) and UVB (280-314 nm) through seven different samples of each material with a spectrophotometer.

RESULTS
Micropore™ S, Xtrata®, all double-layer Micropore™, Mepitac®, Mepiform® and the three different types of Tubigrip® showed UPF (Ultraviolet Protection Factor) > 50, which corresponds to the maximum protection found in European trade. Micropore™ S, all double-layer Micropore™, double-layer Xtrata®, Mepitac®, Mepiform® and Tubigrip® even showed UPF > 100, which corresponds to the maximum protection existing in the US trade. In contrast, white and brown single-layer Micropore™, Hypafix®, Mefix®, Steri-strip®, Omnistrip®, Tubifast® and compression garments such as Jobst® Robex had UPF < 50, which is insufficient.

CONCLUSION
We were able to determine that several materials used in scar and burn management provide UPF > 50, and for some even UPF > 100 protection. The use of these products without any other means can effectively protect scars from the sun. On the other hand, other materials such as compression garments do not provide sufficient UV protection. It is therefore necessary to add UV protection when patients use this type of material.

III.22. Double Pre-Bending of Intramedullary Nails for Dia-Metaphyseal Fractures of the Radius in Children

Luxenhofer M, Lehner M , Szavay P, Jhala T, Luzern

INTRODUCTION
The optimal treatment for distal diamethaphyseal radius fractures is still debated, with both K-wire osteosynthesis and intramedullary nails presenting distinct drawbacks. The double pre-bending technique with intramedullary nails has been proposed as an effective approach [Wollkopf et al., 2023; Krohn, 2022].

METHOD
We present two cases of distal diamethaphyseal radius fractures in 9 and 13-year-old patients where pre-bent nails were used for treatment. The procedure involved pre-bending the nail slightly proximal to the fracture, inserting it as distally as possible without touching the radial growth zone, and advancing it until the pre-bent point contacted the cortex. A second bend was made in the opposite direction, fllowed by further advancement to position the two bends on either side of the fracture. The nail was rotated to establish contact at the proximal bend with the radial and distal bend with the ulnar cortex, reducing the fracture. After shortening the nail, the wound was closed. Radiological follow-ups after four weeks showed satisfactory alignment without dislocation.

CONCLUSION
In conclusion, the double pre-bending technique using intramedullary nails achieved excel-lent anatomical reduction in our cases. We intend to adopt this procedure as a standard when K-wires or unbend intramedullary nails are not feasible for fracture reduction.

III.23. Occipital Encephalocele – A case report of a rare congenital neural tube defect

Hannah Luz Peter Esslinger Philipp Szavay Markus Lehner, Luzern

INTRODUCTION
Encephalocele is a rare congenital neural tube defect with an incidence estimated at about 0.8-5.6/10'000 live births.

CASE STUDY
We present a premature born girl who was born with occipital encephalocele. She was diagnosed prenatally already and born by ceasarian section. Postnatally, the girl was transferred to our intensive care unit, the encephalocele was uninjured with the covering layers were intact. The postnatal ultrasound as well as MRI showed signs for herniation of the cerebellum. Clinically, the child was stable and neurologically adequate. Operative treatment was performed without complications at 5 weeks of age. The herniated cerebellum could be repositioned inside the cranium and closure could be performed in anatomical layers. In the first postoperative days, the patient presented with an increasing bulging fontanella. Repeat ultrasound and MRI showed increased ventricular width as well as hygromas. The MRI showed an almost completely closed aquaeductus. We therefore performed neuroendoscopy with third ventriculostomy. In the following course, the patient unfortunately developed a liquor leak and showed elevated intracranial pressure. We therefore installed a ventricular-peritoneal shunt. The patient has recovered well and is since developing age appropriately.

CONCLUSION
In spite of advanced surgical management, overall morbidity and mortality is still high in patients with encephalocele. In this case, we present successful treatment of a rare congenital tube defect and consecutive hydrocephalus.

III.24. Cervical Spine Injury in a 7-Year-Old Boy: Acute-on-Chronic Pathology

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INTRODUCTION
Chiari I malformation is an underrecognized anatomical anomaly located within the posterior fossa and upper spinal cord that can pose life-threatening risks. This case report aims to present a clinical scenario where posttraumatic instability resulted in intracranial hypertension due to cerebrospinal fluid (CSF) circulation imbalance.

CASE PRESENTATION
A 5-year-old patient experienced a collision with an adult while skiing, leading to loss of conscious-ness. The patient was initially admitted to a regional hospital, where a low-dose computed tomogra-phy (cCT) scan revealed a non-conclusive, hematoma-like lesion in the clival region. Adequate as-sessment of the posterior fossa was not feasible. After 2 nights of observation, the patient was dis-charged but returned to the ER due to abducens nerve palsy. An MRI was performed, showing insta-bility at the C0-C2 level with myelopathy extending to the medulla oblongata. Decompression at the foramen magnum and stabilization at the C0-C2 level were performed. During the following 4 weeks, the patient developed a dorsal cerebrospinal fluid leak in the cervical spine, necessitating dural revi-sion. Follow-up MRI revealed hydrocephalus with circulatory impairment at the cranio-cervical junc-tion. Therefore, placement of a ventriculoperitoneal shunt was necessary. The patient progressed well, and the abducens nerve palsy eventually regressed completely with a normal neurological ex-amination. However, the patient continued to exhibit decreased exercise tolerance and rapid fatigue.

CONCLUSION
In cases of cervical spine injuries, careful attention should be given to the base of the skull and cra-nio-cervical junction. When in doubt, MRI evaluation is essential. Acute-on-chronic phenomena may occur in rare instances.

III.25. Application of ICG Immunofluorescence in thoracoscopic lobectomy for CPAM with incomplete fissure

Tobias Jhala, Philipp Striedl, Philipp Szavay, Luzern

INTRODUCTION
The possible applications for ICG (Indocyanine Green) Immunofluorescence in minimal invasive surgery in adults as well as children are increasing. ICG allows real time visualisation of tissue perfusion and vital structures and therefore has the potential to aid surgical decisionmaking and decrease complications intraoperatively.

AIM
To demonstrate the usefullness of ICG immunofluorescence in demanding thoracoscopic surgery in infants.

METHOD
We present one of our patients in which we used ICG to aid dissection of an incomplete fissure during thoracoscopic lobectomy for CPAM. A 10-month-old female was scheduled for thoracoscopic right lower lobe lobectomy. Diagnosis was made prenatally. After and uneventfull perinatal period the patient was discharged home and scheduled for surgery before age of 12 months. Intraoperatively an incomplete fissure was found, which poses a technical challenge. Meticolous dissection is needed to avoid vascular or bronchial injuries. ICG was used to aid dissection. The vasculature of the right lower lobe was identified with ease using immunofluorescence, moreover an accessory arterial branch was identified distinctly. Lobectomy was successfully carried out thorascopically, the patient made an uneventfull recovery.

RESULTS
A detailed video will be presented, which demonstrated the usefullness using ICG immunoflorescence to depict the anatomy and its variation during this delicate surgery.

CONCLUSION
ICG immunoflourescene has proven to be helpfull in many surgical scenarios and has gained popularity over the last few years. This case presentation depicts the usefullness of ICG in demanding thoracoscopic surgery.