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DATE
14-16 September, 2017

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SCIENTIFIC INFORMATION
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16TH CONGRESS
OF HUNGARIAN ASSOCIATION
OF PEDIATRIC SURGEONS
with International Participation
14–16 September, 2017
Program book

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DEAR FRIENDS AND COLLEAGUES,

On behalf of the Hungarian Association of Paediatric Surgeons (HAPS), it gives us a great pleasure to welcome you to Szeged, Hungary!

The 16th Congress of the HAPS With International Participation gives a unique opportunity for the members to meet our distinguished guests – some of them already friends – coming from various countries from Europe and elsewhere.

The topics of the meeting will cover the main fields of our beloved profession: general paediatric surgery, urology, trauma, minimally invasive surgery . . . etc.

We are looking forward to listen to and enjoy lectures delivered by invited international experts.

Szeged is the cultural, economic and educational-scientific centre of South-Eastern Hungary. Due to its pleasant climate it is often called the „city of sunshine”.

We hope that Szeged provides a perfect venue for the congress and also gives ample time and opportunity to relax, refresh old friendships and make new friends as well.

We wish to all participants a very memorable meeting!

Tamás Kovács
President of Organizing Committee

Attila M. Vástyán
President of the Hungarian Association of Paediatric Surgeons
PATRON OF THE CONGRESS
Dr. János Lázár — the Minister of State in charge of the Prime Minister’s Office

INVITED FACULTY
Prof. Amulya Saxena, London, UK
Prof. Munther Haddad, London, UK
Prof. Sean Marven, Sheffield, UK
Prof. Udo Rolle, Frankfurt, Germany
Prof. Holger Till, Graz, Austria

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Gyula Bán
András Vizi
Brigitta Balogh
Ágnes Varga
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Alkalmazási terület:
- Általános sebészet, nőgyógyászat, urológia, mellkassebészet

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14TH SEPTEMBER (THURSDAY)

13:30      Opening ceremony

14:00 - 15:20 Session 1: Thorax
   Chairmen: Sean Marven, Attila Vástyán

E 01 14:00 - 14:15 An armamentarium for paediatric thoracoscopy
   Sean Marven
   Sheffield Children’s Hospital
   Sheffield S Yorks

E 02 14:15 - 14:20 First experience with biodegradable airway stents in children.
   Andrew Zajac, M. Krysta, M. Zamora, K. Solecki, M. Maślanka, W. Górecki
   Polish-American Children’s Hospital, Jagiellonian University
   Department of Pediatric Surgery
   Krakow, Poland

E 03 14:20 - 14:30 One lung ventilation strategies - our experiences in paediatric
   thoracic surgical patients
   Gyula Tövisházi, A. Kálmán, L. Kovács, M. Kis-Tamás, G. Göbl, B. Hauser, J. Gál
   1Department of Anaesthesiology and Intensive Therapy, Semmelweis University
   21st Department of Paediatrics, Semmelweis University
   Budapest, Hungary

E 04 14:30 - 14:40 Correction of pectus excavatum without radiation exposure
   Attila Kálmán, Gy. Tövisházi, G. Göbl
   11st Department of Pediatrics, Semmelweis University
   2Department of Anaesthesiology and Intensive Therapy, Semmelweis University
   Budapest, Hungary

E 05 14:40 - 14:50 Internal mammary artery occlusion after Minimal Access Repair of
   Pectus Excavatum (MARPE)
   Anna Rieth, Gy. Pásztor, T. Kovács
   University of Szeged, Faculty of Medicine
   1Division of Pediatric Surgery, Department of Pediatrics, University of Szeged
   2Affidea Diagnostics Ltd, Szeged, Hungary
   Szeged, Hungary

E 06 14:50 - 15:00 Solid foreign body removal from lower airways with rigid
   bronchoscopy in children – our experience
   Dániel Hajnal, A. Vizi, T. Kovács
   Division of Paediatric Surgery Department of Paediatrics, University of Szeged
   Szeged, Hungary
**E 07  15:00 - 15:05**  Newborn respiratory distress secondary to inoperable CPAM: Are there any surgical options?
Tamás Milassin, C. Kirby
Women’s and Children’s Hospital
Paediatric Surgery
Adelaide, South Australia

**E 08  15:05 - 15:15**  Thoracoscopic versus open repair of esophageal atresia and tracheoesophageal fistula at a single institution
Vivien Stercel¹, A. Vincze GM V.¹, L. Sasi Szabó¹
University of Debrecen, Medical and Health Science Centre, Department of Pediatrics, Division of Pediatric Surgery
Debrecen, Hungary

**E 09  15:15 - 15:20**  Thoracoscopic repair of H-type tracheoesophageal fistula
Levente Szabó, K. Erdei, K. Szabó, L. Sasi-Szabó
University of Debrecen; Institute of Pediatrics
Debrecen, Hungary

15:20 - 15:50  Coffee break + Commercial exhibition

15:50 - 16:05  Honorary Membership Award Ceremony of HAPS

16:05 - 17:10  Session 2: Gastrointestinal I.
Chairmen: Amulya Saxena, Sándor Sárközy

**E 10  16:05 - 16:20**  CDH- Caveats in surgical management
Amulya Saxena
Chelsea and Westminster Hospital NHS FDrn Trust, Imperial College London, London, UK

**E 11  16:20 - 16:25**  A new approach to gastroschisis - is the Alexis the new silo?
Vanda Molnár², J. Papp¹, Gy. Réti¹, D. Vichor²
Borsod–Abaúj–Zemplén County and University Teaching Hospital
¹Velkey László Center for Child Health – Department of Pediatric Surgery
²Velkey László Center for Child Health – Perinatal Intensive Care Unit
Miskolc, Hungary
E 12 16:25 - 16:35 Inflammatory Bowel Disease surgery within a clinical paediatric surgical unit – results and experiences of the first 5 years
Péter Vörös1, A. Kálmán1, B. Lestár2, G. Veres1
1 Ist. Department of Paediatrics, Semmelweis University, Budapest
2 Department of Surgery, Medical Centre-Hungarian Defence Forces, Budapest
Budapest, Hungary

E 13 16:35 - 16:45 Heterotropic Gastric Mucosa in Rectum in a child. Case report and literature review
Khizer Mansoor1, G. Briars2, A. Minocha1
1 Department of paediatric & neonatal surgery, Norfolk & Norwich University Hospital
2 Department of paediatric gastroenterology, Norfolk & Norwich University Hospital
Norwich, United Kingdom

E 14 16:45 - 16:50 Two separate complications of Schönlein Henochs purpura in a pediatric patient. A case study, and a review of literature.
Mark Langer1, Z. Ringwald1, B. Fadgyas1, S. Sárközy1
1 Department of Surgery and Traumatology, Heim Pál Childrens Hospital
Budapest, Hungary

E 15 16:50 - 16:55 Segmental absence of intestinal musculature – Case Report
András Vizi1, B. Balogh1, T. Kovács1
1 Division of Pediatric Surgery, Department of Pediatrics, University of Szeged
Szeged, Hungary

E 16 16:55 - 17:05 Appendicitis in Child: What Has Changed During the last 30 Years?
Balázs Fadgyas1, S, Sárközy1, P. Vajda2
1 Department of Surgery and Traumatology, Heim Pál Children’s Hospital
2 Department of Paediatrics, Division of Paediatric Surgery, University of Pécs, Medical Centre
1 Budapest, Hungary
2 Pécs, Hungary

E 17 17:05 - 17:10 Negative wound pressure therapy of pilonidal cysts– our early experience
Dániel Hajnal, T. Kovács
Division of Paediatric Surgery Department of Paediatrics, University of Szeged
Szeged, Hungary
**Session 3: Varia**

**Chairmen:** Haitham Dagash, Péter Vajda

**E 18 17:10 - 17:20** Surgical Treatment of Tessier 30 facial cleft. When, what and how to operate?

- Attila M. Vástyán¹, Jozsef Barabas², T. Vizkeley³, G. Klenk⁴, K. Nagy⁴
- ¹Paediatric Surgical Unit, Dept. of Paediatr., University of Pécs
- ²Department of Oro-Maxillofac. Surg. and Stomatology, Semmelweis University, Budapest
- ³Department of Ear-nose and Throat and Oral Surgery, St. James District Hospital Budapest
- ⁴Paediatric Surgical Unit, Dept. of Paediatr., Semmelweis University, Pécs, Hungary

**E 19 17:20 - 17:25** Surgical treatment of rare facial clefts – A case report

- Zsuzsa Tallós¹, O. Lukáts¹, K. Nagy¹
- ¹1st Department of Paediatrics, Semmelweis University, Budapest
- ²Department of Ophthalmology, Semmelweis University Budapest, Hungary

**E 20 17:25 - 17:35** What happens with the ileal epithelium following ileocystoplasty? – Histological findings in rats - Daniel Young Junior Prize 2015

- Dániel Kardos¹, B. Varadi¹, L. Kereskai², J. Horvath³, A. B. Pinter¹, P. Vajda¹
- ¹Department of Paediatrics, University of Pécs
- ²Department of Pathology, University of Pécs
- ³Department of Anatomy, University of Pécs
- Pécs, Hungary

**E 21 17:35 - 17:45** Correction of congenital breast asymmetry by autologous microstructural fat transfer

- András Petrovics¹, G. Pataki¹, T. Mona¹
- Pediatric Surgery and Traumatology, Szent János Hospital Budapest, Hungary

**E 22 17:45 - 17:55** How to treat deep-dermal partial-thickness burns in children? - Conservative versus operative treatment

- Balázs Bóta², L. Szabó², R. Bene²
- ¹Bethesda Children’s Hospital
- ²National Paediatric Burn Centre Budapest, Hungary

**19:30 - 21:30** Welcome Reception
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Angela Csató product manager
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15TH SEPTEMBER (FRIDAY)

9:00 - 10:30. Session 4: Urology I.
Chairmen: Holger Till, Tamás Kovács

E 23 09:00 - 09:15 Anderson-Hynes Pyeloplasty: Can we do better Laparoscopically?
Holger Till
Department of Paediatric and Adolescent Surgery
Graz, Austria

E 24 09:15 - 09:25 Glans wings are separated ventrally by the septum glandis and frenulum penis. MRI documentation and surgical implications
Hüseyin Özbey¹, A. Kumbasar²
¹Department of Pediatric Surgery & Division of Pediatric Urology
²EMAR-MED Radiology Center, Millet Cad. No. 71 Fındıkzade
¹Istanbul Medical Faculty, Istanbul University, 34093 Çapa
Istanbul, Turkey

E 25 09:25 - 09:35 Hypospadias repair with the glanular-frenular collar (GFC) technique
Hüseyin Özbey¹,², Ş. Etker²
¹Department of Pediatric Surgery & Division of Pediatric Urology
²Society for Sexual Development and Hypospadias (DSDturk), Istanbul, Turkey
¹Istanbul Medical Faculty, Istanbul University, 34093 Çapa
Istanbul, Turkey

E 26 09:35 - 09:45 Results with “Manchester anatomical repair” for distal hypospadias
Tamás Cserni ¹,²
¹Royal Manchester Children’s University Hospital, UK
²Jósa András Megyei Kórház, Nyíregyháza, Hungary
¹Manchester, UK;
²Nyíregyháza, Hungary

E 27 09:45 - 09:55 Transverse preputial island flap urethroplasty in re-do hypospadias repair
Tamás Kovács¹, A. Rieth¹
Division of Pediatric Surgery, Departement of Pediatrics, University of Szeged
Szeged, Hungary
E 28  09:55 - 10:05  Effect of frequency of urinary tract infections on histological findings in bladder augmented children - long - term follow up
Péter Vajda¹, D.Kardos¹, Z. Kispal², A.Pinter¹
¹University of Pecs; ²Medical University of Graz
¹Surgical Division, Department of Paediatrics;
²Department of Paediatric and Adolescent Surgery
¹Pecs, Hungary; ²Graz, Austria

E 29  10:05 - 10:10  Root cause analysis of lost surgical needle during laparoscopy
Alejandro Ariel Rossi, S. Hennayake, T. Cserni
Paediatric Urology, Royal Manchester Children's University Hospital
Manchester, UK

E 30  10:10 - 10:15  Optical balloon port makes access to the retroperitoneal space easier
Tamás Cserni, A. A.Rossi, A.Goyal, S. Hennayake
Paediatric Urology, Royal Manchester Children's University Hospital
Manchester, UK

E 31  10:15 - 10:20  Laparoscopic repair of retrocaval ureter
Tamás Kovács
Division of Pediatric Surgery, Department of Pediatrics, University of Szeged
Szeged, Hungary

E 32  10:20 - 10:30  Is laser lithotripsy a new standard for the treatment of pediatric urolithiasis?
Predrag Ilic, S.Dzambasanovic, V.Kojovic, M.Jankovic
Mother and Child Health Care Institute of Serbia „Dr Vukan Cupic”
Urology department
Belgrade, Serbia

10:30 - 11:00  Coffee break + Commercial exhibition
11:00 - 11:30  Award ceremony of Auréll Koós Medal
11:30 - 12:55  Session 5: Urology II.+ Oncology
Chairmen: Eugen Boia, Zoltán Jenővári

E 33  11:30 - 11:35  Instillation versus Injection of Triamcinolone for Idiopathic Urethritis
Bryan Chew¹, L. Henderson², A.Rajimwale³
¹Medical student, University of Leicester;
²Department of Paediatric Surgery, Leicester Children's Hospital
Leicester, UK
E 34 11:35 - 11:45  The macroscopic and microscopic appearance of the bladder template in exstrophy patients undergoing delayed exstrophy repair  
David Keene, CD. Nicoara, V Kazlauskas, A. Scalas, RM. Cervellione  
Royal Manchester Children’s Hospital, Department of Paediatric Urology  
Manchester, UK

E 35 11:45 - 11:50 “How to save as much of the family jewellery as we can?”  
Dóra Bodnár, Gy. Réti  
Department of Pediatric Surgery  
Postgraduate Institute of Pediatrics Borsod–Abaúj–Zemplén County University Hospital, Miskolc, Hungary

E 36 11:50 - 11:55 Bilateral simultaneous testicular torsion in a 17-year-old boy  
Khaled Fathi, E. Svraka, E. Világos, G. Tóth  
Balassa Janos County Hospital-Szekszard  
Szekszárd, Hungary

E 37 11:55 - 12:05 Bilateral multiplex Wilms tumor  
Zoltán Jenővári, T. Prokopp, A. Varga, Z. Sükös, T. Bűdi, M. Csóka  
2nd Department of Pediatrics, Semmelweis University  
Budapest, Hungary

E 38 12:05 - 12:15 Papillary thyroid cancer, role of surgery in the complex treatment  
2nd Department of Pediatrics, Semmelweis University  
Budapest, Hungary

E 39 12:15 - 12:25 Surgical treatment of Neuroblastoma in Our Department  
András Vizi  
University of Szeged; 1Division of Pediatric Surgery, Department of Pediatrics  
Szeged, Hungary

E 40 12:25 - 12:35 Transscrotal orchiectomy in testicular tumors  
Tamás Prokopp, A. Varga, Z. Sükös, T. Bűdi, M. Csóka, Z. Jenővári  
2nd Dept. Paediatrics, Semmelweis University  
Budapest, Hungary

E 41 12:35 - 12:45 The safety and efficiency of minimal invasive surgery in pediatric oncology  
László Sasi-Szabó, L. Szabó, I. Csízy  
University of Debrecen, Institute of Pediatrics, Department of Pediatric Surgery  
Debrecen, Hungary

E 42 12:45 - 12:55 Sclerotherapy with use of doxycycline  
Tamás Bűdi, T. Prokopp, E. Varga, Z. Karádi, Z. Jenővári  
2nd Department of Paediatrics, Semmelweis University  
Budapest, Hungary
13:00 - 14:00  Lunch break

14:00 - 15:00  Poster walk I - II.
Chairmen: Poster walk I.: Andrzej Zajac, László Sasi Szabó
Poster walk II.: Predrag Ilic, László Juhász

15:00 - 15:30  Coffee break+ Commercial exhibition

15:30 - 15:45  Gopal Krishna Saxena Award Ceremony

15:45 - 17:30  Session 6: Basic Science
Chairmen: Udo Rolle, Tamás Cserni

E 43  15:45 - 16:00  Basic science and translation into patient care in Hirschsprung’s disease
Udo Rolle
Goethe-University Frankfurt/M, Department of Paediatric Surgery and Paediatric Urology
Germany, Frankfurt

E 44  16:00 - 16:10  Can testis fixation with tissue glue be alternative for classical fixation? Experimental animal study
Piotr Sołtysiak¹, A.Zając¹, B.Bogusz¹, K.Gryń², N. Mikołajewska³, M. Nowakowski³, M. Grochot¹, W. Górecki¹
¹Department of Pediatric Surgery, Polish-American Children’s Hospital, Jagiellonian University,
²Department of Biomaterials, Faculty of Materials Science and Ceramics, AGH University of Science and Technology,
³Department of Experimental and Innovative Medicine, University of Agriculture, Krakow, Poland

E 45  16:10 - 16:20  Evidence that mucosectomy is diminishing ileal microcirculation and responsible for flap contraction in ileocystoplasty, omentopexy will not help
R. M. Cervellione¹,², Dániel Hajnal¹,², G. Varga¹, J.Kaszaki³, T.Cserni
¹,²,⁴ 1 SZTE ÁOK Sebészeti Műtéttervi Intézet
² Royal Manchester Children’s University Hospital, United Kingdom
³ SZTE Gyermekgyógyászati Klinika Gyermeksebészeti Osztály
⁴ Josa András Megyei Kórház Nyíregyháza
¹ Szeged, ² Nyíregyháza, ³ Szeged, ⁴ Manchester, United Kingdom
Mucosectomy disrupting enteric nervous system may be contributing to flap contraction in ileocystoplasty with demucosalized ileal flap

Dániel Urban, D. Hajnal, L. Tiszlavicz, R. Cervellione, T. Cserni

Institute of Surgical Research, University of Szeged
Szeged, Hungary

Examination of callus formation after tibial fracture in Pituitary Adenylate Cyclase Activating Polypeptide (PACAP) knockout mice - Daniel Young Junior Prize 2017

Gergő Jozsa1,2, R. Dora2, B. Czibere4, B. D. Fulop2, T. Kiss3, Zs. Helyes3, P. Vajda1, T. Juhasz4

1 Unit of Pediatric Surgery, Department of Pediatrics, Medical Centre, University of Pécs, Hungary
2 Department of Anatomy PACAP Research Team
3 Szentágothai Research Center Medical School, University of Pécs, Department of Pharmacology and Pharmacotherapeutics,
4 Department of Anatomy, Histology and Embryology, Faculty of Medicine, University of Debrecen, Hungary

Pécs, Hungary; Debrecen, Hungary

Cheap and clean dry balloon training model for laparoscopic pyeloplasty

Alexandra Pal, A. Goyal, S. Hennayake, T. Cserni

Paediatric Urology, Royal Manchester Children’s Hospital
Manchester, UK

Magnetic compression anastomosis to simplify laparoscopic pyeloplasty - Report of preliminary experimental results

Tamás Cserni1,2, D. Hajnal2, A. Nagy3, D. Urban1, R. Kubiak3, Gy. Rákóczi1, J. Kaszaki3, S. Hennayake1

1 Royal Manchester Children’s University Hospital, UK
2 Institute of Surgical Research, University of Szeged, Hungary
3 Department of Radiology, University of Szeged, Hungary

Paediatric Surgical Department Clinic of Braunschweig, Germany

Manchester, UK; Szeged, Hungary; Braunschweig, Germany

Nitrous oxide provides safe and effective analgesia for minor paediatric procedures - A systematic review.

Pedersen RS, Bayat A, Steen NP, Marie-Laure Bouchy Jacobsson
Zealland University Hospital - Köge
Emergency Department
Köge, Denmark
E 51  17:10 - 17:20  Using N20 in outpatient supply
Huba Gazdus¹, Z. Szebeni¹, Zs. Jórász¹, Gy. Nagy¹
¹MRE Bethesda Childrens Hospital Surgery
Budapest, Hungary

E 52  17:20 - 17:30  The use of inhalative nitrous oxide in pediatric surgical emergency
Anna Rieth¹, L. Juhász¹, T. Kovács¹
¹Division of Pediatric Surgery, Department of Pediatrics, University of Szeged
Szeged, Hungary

20:00   Gala Dinner
16TH SEPTEMBER (SATURDAY)

9:00 - 10:20  Session 7: Minimally Invasive Surgery
Chairmen: Munther Haddad, Attila Kálmán

E 53  09:00 - 09:15  Robotic Surgery in Children
Munther Haddad
Chelsea and Westminster Hospital NHS FDn Trust, Imperial College London, London, UK

E 54  09:15 - 09:25  Pediatric surgical laparoscopic training in Hungary
Brigitta Balogh, T.Kovács
Pediatric Department, Division of Surgery University of Szeged, Szeged, Hungary

E 55  09:25 - 09:35  Laparoscopic pyloromyotomy for hypertrophic pyloric stenosis – assessment after the first cases
Eugen Boia¹, MC Popoiu¹, RE Iacob¹, CM Stanciulescu¹, B Ciornei², David Vlad¹
Department of Pediatric Surgery and Orthopedics
¹“Victor Babes” University of Medicine and Pharmacy Timisoara, Romania
²“Louis Turcanu” Emergency Children’s Hospital Timisoara, Romania
Timisoara, Romania

E 56  09:35 - 09:45  Laparoscopic management of varicocele – single centre experience
J. Rae¹, Haitham Dagash¹, A.Rajimwale¹, Shawqui Nour¹
Leicester Royal Infirmary
¹Paediatric Surgery
Leicester, United Kingdom

E 57  09:45 - 09:50  Transumbilical Cord Access in children
Franciska Torma ¹, Z. Jenővári ², E. Csökö ³, T.Büdi ⁴, T.Prokopp ⁵
2nd Department of Paediatrics, Semmelweis University
Paediatric Surgery, Semmelweis University
Budapest, Hungary

E 58  09:50 - 10:00  Laparoscopically Assisted Hook Hernia Repair
Andrea Simon¹, T.Büdi², Z. Sükösd², T. Prokopp², Z. Karádi², E. Varga³, Z. Jenővári²
¹Medical Student, Semmelweis University
²2nd Department of Paediatrics, Semmelweis University
Budapest, Hungary
### List of Presentations

#### E 59  10:00 - 10:05
**Laparoscopic Hernia Repair – our preliminary experience**  
Ágnes Varga¹, T. Kovács¹  
¹ Division of Pediatric Surgery, Department of Pediatrics, University of Szeged, Szeged, Hungary

#### E 60  10:05 - 10:10
**The role of laparoscopy in the management of iatrogenic colonic perforations in children**  
László Sasi Szabó  
Institute of Pediatrics, University of Debrecen  
Department of Pediatric Surgery, Debrecen, Hungary

#### E 61  10:10 - 10:20
**Laparoscopic appendectomy- how many ways do we perform it?**  
Brigitta Balogh, T. Kovács  
Division of Pediatric Surgery, Departement of Pediatrics, University of Szeged, Szeged, Hungary

#### 10:20 - 10:50
**Coffee break + Commercial exhibition**

#### 10:50 - 12:40
**Session 8: Traumatology + Gastrointestinal II.**  
Chairmen: Radoica Jokic, András Farkas

#### E 62  11:00 - 11:10
**Minimal invasive surgical treatment options and complications of the distal dia-metaphyseal radial fractures in childhood. Retrospective multicenter study.**  
Balázs Fadgyas¹, G.Józsa², R.Varga³, D. Czene³, M.Varga³, Miklós Kelemen¹, G. Wéber¹, Tamás Kassai³  
¹ Heim Pál Children’s Hospital; Surgery and Traumatology;  
² University of Pécs, Faculty of Medicine, Clinic of Pediatrics; Surgery  
³ Sándor Péterfy Street Hospital and Casualty Centre; Pediatric Traumatology;  
Budapest, Hungary, Pécs, Hungary

#### E 63  11:10 - 11:20
**Ultrasound-assisted diagnosis of distal pediatric forearm fractures**  
Marcell Varga¹, N.Gáti¹, E. Kalóz¹, Zs. Bíró¹, G. Józsa², D.Kardos²  
¹ Péterfy Hospital, Trauma Center, Budapest  
² University of Pécs  
¹ Department of Pediatric Trauma Surgery  
² Department of Pediatric Surgery (2)  
¹ Budapest, ² Pécs
E 64 11:20 - 11:30  Intraoperative sonography can reduce the risk of extensor pollicis longus tendon injury during flexible intramedullary nailing of the radius in children
Marcell Varga, N.Gáti, T. Kassai, S. Papp
Department of Paediatric Trauma Surgery
Péterfy Hospital, Budapest, Trauma Center,
Budapest, Hungary

E 65 11:30 - 11:40  Our experiences of pulseless supracondylar humeral fractures requiring surgical exploration
G.Wéber, M. Langer, I.Füle, T.P.Sült
Heim Pál Children’s Hospital, Surgery
Budapest, Hungary

Yuriy Demyan, P. Plesha
Regional Children Hospital
Mukachevo, Ukraine

E 67 11:50 - 12.00  „Floating elbow” injury in children, a 13-year retrospective study from our department.
Robert König, T.Mona, A. Pelényi
Szent János Hospital
Paediatric surgery and Paediatric traumatology Department.
Budapest, Hungary

E 68 12:00 - 12:05  Severe opened crural fracture – team work in pediatric traumatology (case report)
Balázs Fadgyas, B. Novoth, S. Sárközy
Heim Pál Children’s Hospital
Department of Surgery and Traumatology
Budapest, Hungary

E 69 12:05 - 12:10  Transverse colon volvulus is not always due to chronic constipation - beware of chronic intestinal pseudoobstruction
Sarah Braungart, Loveday Jago, Basem Khalil, Antonino Morabito
Royal Manchester Children’s Hospital
1Department of Paediatric Surgery
2Department of Paediatric Gastroenterology
Manchester, UK
**E 70  12:10 - 12:20**  To lengthen or not to lengthen? Surgical management of short bowel syndrome – the Manchester experience  
Sarah Braungart¹, Riccardo Coletta¹, Valeria Soleri², Antonino Morabito¹  
¹ Royal Manchester Childrens Hospital, Manchester, UK  
² Donauspital, Vienna, Austria  
Department of Paediatric Surgery  
Manchester, UK

**E 71  12:20 - 12:30**  First STEPs – is it the right thing to do?  
Sarah Braungart, Bashar Aldeiri, Riccardo Coletta, Antonino Morabito  
Department of Paediatric Surgery, Royal Manchester Children's Hospital, Manchester  
Royal Manchester Children's Hospital  
Manchester, UK

**E 72  12:30 - 12:40**  Early lengthening procedures – Are we doing what we should be doing?  
Bashar Aldeiri, Sarah Braungart, Riccardo Coletta, Antonino Morabito  
Department of Paediatric Surgery, Royal Manchester Children's Hospital, Manchester  
Royal Manchester Children's Hospital  
Manchester, UK

**E 73  12:40 - 12:50**  Is bilateral hernioplasty needed in symptomatic unilateral inguinal hernia in children? – A long-term, retrospective study  
Gergo Jozsa¹, Greta Zsoldos², Peter Vajda¹, Attila Vastyan  
¹ Unit of Pediatric Surgery, Department of Pediatrics, Medical Centre, University of Pécs, Hungary  
² Medical School, University of Pécs  
Pécs, Hungary

**12:50**  Congress Closure
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- Depending on the length of sessions, the speakers have 8’(+2’) or 4’(+1) - except Invited foreign speakers (15’) minutes to share their results.
- Presentations are followed by 1 or 2 minutes discussion or questions.
- All presenters are kindly requested to check and hand in their presentation - in case they haven’t sent it to the Organizers before the Congress - at the Technicians’ desks at least 1 hour prior to the lecture sessions.
- Chairmen of the sessions are kindly asked to introduce the invited speakers to the audience at the beginning of each sessions and also to devote attention not to exceed the time frame of the sessions.
- Chairmen are asked to initiate discussion/debate at the end of the sessions.

INFORMATION FOR POSTER PRESENTERS

- The Poster exhibition will be held in the Ferenc Mőra section room.
- Posters can be put up from Thursday (14. Spet.) 13.00 o’clock and must be removed by the end (13.00 o’clock) of the congress on Saturday (16. Sept).
- We cannot guarantee the return of any poster left in situ.
- Posterwalk: 15th September 14:00 - 15:00
VENUE
Hunguest Hotel Forrás****
Address: Szent-Györgyi A. str. 16-24., H-6726 Szeged, Hungary

DATE
14 - 16 September 2017

CONGRESS LANGUAGE
The official congress language is English.

CERTIFICATE OF ATTENDANCE
A certificate of attendance will be available for all registered participants at the registration desk.

REGISTRATION OFFICE OPENING HOURS AT THE VENUE
14th September 12:00 - 19:30
15th September 08:00 - 19:00
16th September 08:00 - 13:00

REGISTRATION PHONE
(only available on 14 -15 -16 September): +36-30/465-6153

ON-SITE REGISTRATION FEES

<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>HAPS Members</td>
<td>42.000 HUF</td>
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<tr>
<td>Non HAPS Members</td>
<td>62.000 HUF</td>
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<tr>
<td>Accompanying persons</td>
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<tr>
<td>Exhibitors</td>
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In accordance with the Hungarian tax regulations, invoices will show the full registration fees divided into registration costs and catering costs (18.000HUF).

Registration fees for participants (HAPS and Non HAPS Members, Exhibitors) includes:
- Admission to all scientific sessions
- Congress material (final program etc.)
- Admission to the trade exhibition
- Admission to the Welcome Reception on 14th September 2017
- Lunch on 15th September 2017
- Coffee breaks

Registration fees for Accompanying persons includes:
Admission to the Welcome Reception on 14th September 2017
Lunch on 15th September 2017
Accommodation is not included in the registration fee.
WELCOME RECEPTION
14th September (Thursday) 19:30 - 21:30 in Hunguest Hotel Forrás****
The cost of the Welcome Reception is included in registration fee for participants.

LUNCHES
15th September (Friday) 13:00 - 14:00 in Hunguest Hotel Forrás****
The cost of the Friday lunch is included in registration fee for participants.

OPTIONAL:
16th September (Saturday) 13:00 - 14:00 in Hunguest Hotel Forrás****
The cost of the Saturday lunch is NOT included in registration fee for participants.
Price: 4500 HUF/ pers.

OPTIONAL SOCIAL EVENT
15th September (Friday) 20:00 - 24:00
Conference dinner in Tisza River Cafe Club (Szeged, Felső Tisza-Part, 6723)
The cost of the conference dinner is NOT included in registration fee for participants.
Price: 8.000 HUF

ACCOMMODATION
We recommend the congress participants the following hotels:

Hunguest Hotel Forrás**** Superior
Szent-Györgyi Albert u. 16, H-6726 Szeged, Hungary
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www.hotelforras.hunguesthotels.hu
The full-fledged renovation included hotel rooms, conference and meeting rooms as well as the catering units. As new services a four-track bowling facility with a bar, an X-box room and a playing room are available to our guests.

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PAYMENT
When registering for the 16th Hungarian Association of Pediatric Surgeons please arrange payment of the registration fee.
Payments should be made in Hungarian forint. (HUF)
Any bank charges will be charged to the payer.
In case of bank transfer by your sponsor / workplace please make sure that your name is forwarded together with the money. If your sponsor uses a block transfer for several participants it is necessary to include all relevant names.

PARKING
You can use the guarded parking lot in front of Hunguest Hotel Forrás****(against a fee), or park your vehicle in the free parking facility at the side of the hotel building.
In Szeged three different parking zones have been designated. Signs - about the particular zone - are at the beginning of the street. Parking tickets are available from newsagent’s, local stores etc. Parking time: weekdays 8.00 a.m - 6.00 p.m; Saturday: 8.00 a.m - 12.00 p.m (Mars square)

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Szeged has a developed and well-organised public transport infrastructure with two public transport providers. These are the Szeged Transport Company (www.szkt.hu, www.szegedkozlekedes.hu) and the DAKK Dél-alföldi Közlekedési Központ Zrt. (www.dakk.hu), which operate trams, buses and trolley-buses.

PASSPORTS AND VISAS
Currently valid passport or identity card is required for foreign visitors travelling to Hungary.
Although visa requirements may vary from country to country, no visa is needed from almost all European Countries.

CURRENCY
The forint is the currency of Hungary. (sign:Ft;code:HUF)
CREDIT CARDS
All major credit cards are normally accepted throughout Hungary, as advertised at points of sale, such as: American Express, Euro card/Master card, Visa. ATMs are widespread.

PHONE CALLS
The country code for international calls to Hungary is +36.

LIABILITY - INSURANCE
The participants take part in all excursions at their own risk. The registration fees does not include any kind of insurance. The Organizing Committee and the Congress Bureau can not accept liability for personal accidents, lossess or demage. Health, baggage or accident insurance is recommended and must be taken out in your own country.

ABOUT THE CONFRENCE VENUE’S LOCATION
Szeged is known as the capital of „Alföld“, the Great Hungarian Plain. Szeged, the Csongrád county seat, is the largest city of South-East Hungary with a population of 162,000. It lies at the confluence of the Tisza and Maros rivers, at a distance of 170 km from Budapest, close to the Serbian and Romanian borders.

The city of Sunshine and Pick salami welcomes visitors to a number of events related to culture (Open-Air Festival), gastronomy (fish-soup cooking contest), and sports (Kayak-Canoe World Championship). Its renovated downtown area with a Mediterranean atmosphere has recently been awarded the prestigious Europe Prize.

The HUNGUEST Hotel Forrás**** is a ten-minute walk away from the city center, located in New Szeged, in a wonderful green garden district on the bank of the Tisza river.
The hotel is completely renewed both externally and internally and is pleased to receive its old and new guests with four-star rooms and high-standard services.
The full-fledged renovation included hotel rooms, conference and meeting rooms as well as the catering units.
PEDIATRIC SOLUTIONS
**P 01** Intussusception – or a common diagnosis of the pediatrician and the pediatric surgeon
Dóra Bodnár, Gy. Réti
*Department of Pediatric Surgery*
*Postgraduate Institute of Pediatrics*
*Borsod-Abaúj-Zemplén County University Hospital*
*Miskolc, Hungary*

**P 02** Retrospectiv analysis of the cases treated between 2011-2016 diagnoses with periappendikular mass
Dávid Kováts 1, Gy. Nagy 1, J. Czelec 2
1 *Bethesda Children Hospital of the Hungarian Reformed Church, Department of Surgery*
2 *Bethesda Children Hospital of the Hungarian Reformed Church, Department of Gastroenterology*
*Budapest, Hungary*

**P 03** Pitfalls that might occur during differential diagnosis of bloody stool
Annamária Vass, T. Mona
*Paediatric Surgery and Traumatology Department, Szent János Hospital*
*Budapest, Hungary*

**P 04** Case report of two symptomatic Meckel’s diverticulum
Huba Gazdus 1, Z. Szebeni 1, Z. Jórász 1, Gy. Nagy 1
1 *MRE Bethesda Childrens Hospital, Surgery*
*Budapest, Hungary*

**P 05** Minimal-invasive therapy of small intestine perforation due to manual reduction of incarcerated inguinal hernia – Case report
Vivien Stercel MD 1, P. Juhász 1, L. Sasi Szabó MD 1
*University of Debrecen, Medical and Health Science Centre, Department of Pediatrics, Division of Pediatric Surgery, Hungary*
*Debrecen, Hungary*

**P 06** Persistent müllerian duct syndrome and transverse testicular ectopia in a two years old boy
A. Uçar 1, Levent Cankorkmaz 1, H. Özer 2, E. Yıldız 2
1 *Pediatric Surgery, Cumhuriyet University Faculty of Medicine*
2 *Pathology, Cumhuriyet University Faculty of Medicine*
*Sivas, Turkey*

**P 07** Uncommon abdominal wall mass in a young boy: desmoid tumor
Levent Cankorkmaz 1, M. H. Atalar 2, R. Eğilmez 3
1 *Pediatric Surgery, Cumhuriyet University Medicine School*
2 *Radiology, Cumhuriyet University Medicine School*
3 *Pathology, Cumhuriyet University Medicine School*
*Sivas, Turkey*
P 08 Acute life-threatening midgut volvulus with intestinal malrotation in a 3-year old boy – a case report
Agnes Bokros, A. Ivanecz
Department of Abdominal and General Surgery, University Clinical Centre
Maribor, Slovenia

P 09 Axial torsion of a Meckel’s diverticulum: a plea for resection and anastomosis
Haitham Dagash1, M. Kakade1.
1Paediatric Surgery, Leicester Royal Infirmary
Leicester, United Kingdom.

P 10 Diaphragmatic mesothelial cyst and percutaneous ethanol sclerotherapy: in a young girl
Levent Cankorkmaz1, İ. Şalk2, M. H. Atalar2
1Pediatric Surgery, Cumhuriyet University
2Radiology, Cumhuriyet University
Sivas, Turkey

P 11 Volvulus of the small intestine caused by mesenteric cyst
Péter Juhász1, L. Sasi Szabó1
1Department of Pediatrics, University of Debrecen
Debrecen, Hungary

P 12 Ultrasonic surgical devices in paediatric surgery
Ágnes Varga1, T. Kovács1
1Division of Pediatric Surgery, Department of Pediatrics, University of Szeged
Szeged, Hungary

P 13 Bone tissue metabolism in patients with the ehlers-danlos syndrome
Yuriy Demyan, I. Guk, O. Magomedov, A. Zyma, A. Cheverda, T. Kincha Polishchuk, Balacka N.I.1
1Institute of Orthopedics and Traumatology, National Academy of Medical Sciences,
Kiev, Ukraine

P 14 Could the number of voiding cystourethrographies be reduced?
Dragana Zivkovic, D. Sarac
Department of Pediatric Urology, Pediatric Surgery Clinic
Novi Sad, Serbia

P 15 Biofeedback for lower urinary tract symptoms (LUTS) in children – first impressions
Dragana Zivkovic, D. Sarac
Department of Pediatric Urology, Pediatric Surgery Clinic
Novi Sad, Serbia
P 16  **Story of a foreign body following a re-do pyeloplasty**  
Daniel Kardos\(^1\), K. Molnár\(^2\), Zs. Juhasz\(^1\), P. Vajda\(^1\)  
\(^1\) Department of Paediatrics, University of Pecs  
\(^2\) Paediatric Surgical Unit, Szent Gyorgy Hospital  
\(^1\) Pecs, Hungary  
\(^2\) Szekesfehervar, Hungary

P 17  **Giant ectopic inguinal hernia in infant**  
Balázs Fadgyas, Sándor Sárközy  
Surgery & Traumatology, Heim Pál Children's Hospital  
Budapest, Hungary

P 18  **An unusual penetrating neck injury in a 9-year-old girl**  
Péter Vörös  
Ist. Department of Paediatrics, Semmelweis University, Budapest  
Budapest, Hungary

P 19  **Diffuse axonal injury after head trauma**  
Blanka Bárdos, T. Mona  
Paediatric Surgery and Traumatology Department, Szent János Hospital  
Budapest, Hungary

P 20  **Tibial tubercle fractures in childhood: an alternative surgical method**  
Fadgyas Balázs, Novoth Béla, Sárközy Sándor  
Departement of Surgery and Traumatology, Heim Pál Children's Hospital  
Budapest, Hungary

P 21  **Retrospective study of childhood skull fractures and a case of growing skull fracture**  
Adrienn Fang-Tóbiás, T. Mona  
Paediatric Surgery and Traumatology Department, Szent János Hospital  
Budapest, Hungary
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E 01
An armamentarium for paediatric thoracoscopy
Sean Marven
Sheffield Childrens’s Hospital
Sheffield S Yorks

E 02
First experience with biodegradable airway stents in children.
Andrew Zajac, M. Krysta, M. Zamora, K. Solecki, M. Maślanka, W. Górecki
Polish-American Children’s Hospital, Jagiellonian University
Department of Pediatric Surgery
Krakow, Poland

Introduction
Airway malacia is the most common cause of tracheobronchial obstruction in children. An alternative for surgical approach (aortopexy) can be metallic airway stents, but usually they are not considered as a first choice, because of relatively high risk of complications. Recent years have brought encouraging reports of application biodegradable stents in children.

Objectives
Presentation of our experience with biodegradable airway stents.

Material and Methods
Authors present 2 patients with airway malacia qualified for implantation of biodegradable stents. First patient, the 1.5 year old girl with left main bronchus malacia. The complication appeared as a part of postpneumectomy syndrome (PPS) after right pulmonectomy in neonatal period due to congenital cystic adenomatoid malformation (CCAM). Second baby, 7 months old boy with severe tracheomalacia, previously operated because of esophageal atresia with low TE fistula.

Results
Four custom-made polydioxanone stents (ELLA) were inserted in 2 children bronchoscopically, uneventfully. Immediate and maintained clinical improvement was observed in every case. No major stent related complications have occurred. In the first patient we placed until now three stents.

Conclusion
Biodegradable airway stents seem to be safe and effective therapeutic option in airway obstruction. They can be an alternative to the classic metallic or plastic stents for severe trachea-bronchial stenosis or malacia in small children.
E 03
One lung ventilation strategies - our experiences in paediatric thoracic surgical patients

Gyula Tövisházi¹, A. Kálmán², L. Kovács², M. Kis-Tamás¹, G. Gőbl¹, B. Hauser¹, J. Gál¹

¹Department of Anaesthesiology and Intensive Therapy, Semmelweis University
²1st Department of Paediatrics, Semmelweis University

Introduction
The current trend towards complex thoracoscopic procedures on children and infants requires advanced anesthesia methods including lung isolation techniques.

Objectives
The aim of this retrospective analysis was to review the use of one lung ventilation (OLV) strategies for thoracic procedures in our department.

Materials/patients & methods
From January 2016 to June 2017, we recorded 60 intrathoracic operations, 21 of which required OLV according to surgical request. Typical indications were thoracoscopic resection of bullae or pleurectomy, and CPAM (congenital pulmonary airway malformation) or lung sequestration cases.

Results and conclusion
Lung isolation was successful in 95% of cases. Fibreoptic guidance was used routinely. In the OLV group, median age of 11 years (3 month – 20 years), median weight of 29 kg (5.1-72 kg) was observed. Methods in successful lung isolation cases included double lumen tube (60%), endobronchial single lumen tube, and bronchial blocker (20-20%, respectively). There were two additional cases of bronchial blocker placement in children with bronchopleural fistulae in the ICU.

Complications included transient desaturation (SpO2<90%) in 14% of cases and transient hypercapnia (EtCO2 50-110mmHg) in 52% of cases - none of which was associated with haemodynamic consequences.

Our observations confirm that with careful preoperative planning, involving the surgical, pulmonary and anaesthetic team, OLV techniques are feasible and safe methods for complex thoracic procedures in the paediatric population.

E 04
Correction of pectus excavatum without radiation exposure

Attila Kálmán¹, Gy. Tövisházi², G. Gőbl²

¹1st Department of Pediatrics, Semmelweis University
²Department of Anaesthesiology and Intensive Therapy, Semmelweis University

Introduction
Traditional evaluation of pectus excavatum (PE) is done with preoperative chest CT. To reduce radiation exposure, we didn’t use CT from the very beginning of performing MIRPE (2000). Later we left the use of preoperative chest X-ray also, because we don’t use pectus index for indication of MIRPE (2014).
Finally we abandoned the routine postoperative X-ray too, eliminating all radiation exposure. At the end of the procedure both pneumothorax and fluid is checked with ultrasound.

Objectives
Our goal was to assess our preliminary data with the use of ultrasound for the postoperative evaluation of pneumothorax and fluid in the chest.

Materials/patients&methods
From 29/May/2017 16 consecutive patients (15,25±1,6 years) were enrolled in this pilot study. 1 patient had Marfan-syndrome. 5/16 patients got 2 bars, and 2 patients got an asymmetric bar to elevate the costal arch. The remaining 9 patients got a single, symmetric bar.

Results
In 4 patients there was a small amount of air in the chest, detectable in a single intercostal space on one side. In the remaining 12 patients there was neither pneumothorax nor fluid. No chest tube was used. In the postoperative period one chest X-ray was done in a patient for fever, which didn’t show actual problem. Patients were emitted on the 3rd postoperative day.

Conclusion
Although our results are preliminary, we assume, that with use of thoracoscopy on both sides, checking for any bleeding and aspirating the insufflated gas, we can totally eliminate radiation exposure treating patients with pectus excavatum.

E 05
Internal mammary artery occlusion after Minimal Access Repair of Pectus Excavatum (MARPE)

Anna Rieth1, Gy. Pásztor2, T.Kovács1
University of Szeged, Faculty of Medicine
1 Division of Pediatric Surgery, Department of Pediatrics, University of Szeged
2 Affidea Diagnostics Ltd, Szeged, Hungary

Introduction
Minimal Access Repair of Pectus Excavatum (MARPE) is the most widespread operation for correction of funnel chest. As Internal Mammary Arteries (IMA) traverse postero-lateral to the sternum, the introduced bars may compress these vessels.

Objectives
Our aim was to determine flow patency in IMA after MARPE.

Patients and Methods: IMA patency was investigated by Doppler ultrasound (DUS) in patients operated on between 2013-2016. Data was collected regarding age; elapsed time since surgery, gender, number of bars, preoperative Haller index, asymmetry, sternal rotation.

Data included 23 patients (male n=21, female n=2) operated on with a mean age of 15.6 years (14-18). Mean preoperative Haller index was 4.03 (2.91-6.1). There were 10 symmetrical and 13 asymmetrical deformities,
accompanied with 14 sternal rotations (right n=10, left n=4). Mean time elapsed since MARPE was 21 months (5-36). One pectus bar was used in 22 cases, 2 bars were employed in 1 patient. On DUS patent vascular flow in IMA was confirmed in 19 (82.6%), vascular stenosis in 2 (8.7%) and occlusion in 2 (8.7%) cases. Mean vascular flow was 98.1 cm/s (54-177) on the right side, 82.7 cm/s (0-170) on the left. Stenosis occurred in a patient with severe symmetric deformity corrected with 2 bars, and also was found in a patient with mild symmetric deformity accompanied with rotation. Occlusion was seen in patients with asymmetric and mild deformity.

Results and Conclusion
Our data shows that IMA compression is not commonly associated with MARPE. Stenosis and occlusion can be influenced by the number of bars, severity of the deformity and asymmetry. Further studies will be aimed to correlate IMA flow, to select patients that could be affected by IMA hemorrhage at the time of bar removal.

E 06
Solid foreign body removal from lower airways with rigid bronchoscopy in children – our experience
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Introduction
Rigid bronchoscopic foreign body removal is the gold standard procedure for foreign body aspiration. Our department performs these interventions among the paediatric population in Southeast Hungary. In our study we have analyzed our results of paediatric bronchoscopies.

Materials and methods
A retrospective study was performed including every children who were admitted suspected solid foreign body aspiration between 2006 and 2016.

Results
Out of 220 patients admitted because of foreign body aspiration, in 86 cases was suspected solid particle aspiration. Mean age was 3.12 years. Foreign body aspiration was certain according to anamnesis in n=59/86 (68.6%). Sudden choking-like symptoms were seen in n=61/86 (70.9 %), acute and chronic coughing in n=81/86 (68.6 %). Thoracic auscultation was positive in n=67/86 (77.9%). Chest x-ray was positive in n=75/86 (87.2 %),while fluoroscopy was positive only in n=12/75 (16 %).

92 bronchoscopies in 86 patients were performed. Mean time between aspiration and intervention was 6.1 days although early bronchoscopy within 24 hours was provided in n=53/86 (61.6%). In 57 bronchoscopies, solid foreign body or bodies were found (66.2%) and the removal was successful in 56 cases. Thoracic auscultation was negative in patients with foreign body only in n=6/57 (10.5%). In the same group chest x-ray was negative in n=33/57 (57.9%) and fluoroscopy was positive only in n=12/57 (21.1%). Repeated bronchoscopy was necessary due to suspected residual foreign body or other complications in n=6/86 (6.9%). Pneumonia or prolonged bronchitis was present in n=4/86 (4.6%). Severe bronchial bleeding
occurred in n=2/86 (2.3%) Mortality was 1.2 % in a child with severe co-morbidity and chronic aspiration. Bronchoscopy was negative in n=29/86 (33.7%).

**Conclusions**
Rigid bronchoscopy is indicated if solid foreign body aspiration is suspected and positive anamnesis, typical symptoms (coughing, choking) or positive chest auscultation are present. Diagnosis dominantly based on radiological finding are controversial due to the high possibility of false negative results. Early intervention within 24 hours is recommended to avoid complications.

**E 07**
**Newborn respiratory distress secondary to inoperable CPAM: Are there any surgical options?**

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**Introduction**
Congenital Pulmonary Airway Malformation (CPAM) is one of the most commonly detected lung malformations on antenatal screening. It rarely causes life threatening complications at birth, as in the majority of the cases it remains asymptomatic in the perinatal period, and long term observation and on demand delayed resection is often a feasible and safe way to manage.

**Patients and Methods: Case presentation**
We present the management of a term newborn with antenatally suspected cystic mass in the lower lobe of left lung. Few hours after birth he developed severe mediastinal shift to the right due to air trapping resulting in severe respiratory and right heart failure. He needed emergency thoracotomy to decompress the high intrathoracic pressure on day one of life giving him temporary relief. At that time the CPAM was thought to be “inoperable” due to the hypoplastic right lung and left upper lobe and the lesion occupying most of the left lower lobe. He required two more thoracotomies during the first four months of his life.

**Discussion**
Due to air trapping mechanism he was heading into life threatening cardiorespiratory failure soon after birth, but due to the hypoplastic lungs, he relied on the minimal healthy lung tissues surrounding the lesion, therefore, a formal resection of the left lower lobe was impossible. Decompression and fenestration of the largest cysts temporarily stabilized his condition. With post-operative Intensive Care and one more emergency thoracotomy we maintained sufficient breathing, allowing the otherwise healthy child to grow, to be able to survive the subtotal resection of the lesion in left lower lobe, at the age of four months. Histology confirmed Type 1 CPAM with ciliated columnar epithelium containing mucinous clusters, putting him into the high risk group for developing lung cancer over his lifetime.
E 08
Thoracoscopic versus open repair of esophageal atresia and tracheoesophageal fistula at a single institution

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Purpose
The benefits of thoracoscopic repair (TR) of esophageal atresia with or without tracheoesophageal fistula (EA/TEF) in newborns are obvious. Our aim was to compare TR versus open repair (OR) in our institution.

Patients and methods
In our retrospective cohort study we assessed all cases of EA/TEF treated by TR or OR between 2013 and 2017 in Debrecen. Study population included 24 children: 11 in TR group (TRG=11) and 13 in OR group (ORG=13). Patients were investigated according to operation time (OT), timing of postoperative extubation (PEX), presence of leakage, need of reoperation, initiation of oral feeding (OF), length of stay in hospital (LOS) and presence of stricture.

Results
We found better results in case of TRG compared to ORG. We found significant difference between the two groups, but only in case of LOS: (TRG:37,63 days), (ORG:53,38 days), (p=0,045). The average OT was 131,07 minutes in TRG, (ORG:167,66 minutes). The average PEX occured 3,09 days after the surgery in TRG, (ORG:7,30 days). Less leakages evolved in TRG (2/11), than in ORG (3/13). More reoperation were required in ORG (4/13), than in TRG (2/11). OF was initiated on the average 6,09th postoperative day in TRG, (ORG:8,3th postoperative day). Less esophageal strictures have occured in TRG (3/11), than in ORG (4/13), (all p>0,05, excluding the case of LOS).

Conclusion
In our study, thoracoscopic repair of esophageal atresia appeared to be at least as good and safe method as open surgery, but with less surgical trauma. Thoracoscopic technique is now our preferred approach.

E 09
Thoracoscopic repair of H-type tracheoesophageal fistula

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Introduction
H-type tracheoesophageal fistula is a rare congenital anomaly. The type of surgical repair depends on the localisation of the fistula. The thoracoscopic repair is a possible alternative of the thoracotomy in case of thoracal fistulas.
Objectives
After three cases managed thoracoscopically our aim was to report this short series highlighting the importance of diagnosis, localisation, perioperative management and give a short video presentation about our operational technique.

Patients & methods: we present 3 cases recently operated in our institute. For the exact localisation video-fluoroscopic swallowing esophagogram was performed and all patients presented their fistulas in the upper thoracic region. After intubation, bronchoscopy was made to exclude multiple fistulas. With a standard 3-port thoracoscopic technique under a gentle 3 Hgmm CO2 insufflation the dissection and ligation of the fistula was done and the esophagus wall was sutured.

Results
We encountered no intraoperative complication. The operational time varied from 120 to 150 minutes. No perioperative transfusion was needed. On the 4-6th postoperative day after a negative swallowing X-ray oral feeding was started. We achieved full oral feeding on the 6th-8th days. One patient had a partial postoperative pneumothorax managed with longer thoracic drainage. After a follow-up of 3-14 months all patients are growing well and are without symptoms.

Conclusion
With the general advantages provided with thoracoscopy, in cases of thoracally localised H-type tracheoesophageal fistulae VATS repair is a safe and feasible method and should be the first choice for surgery.

E 10
CDH- Caveats in surgical management
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E 11
A new approach to gastroschisis - is the Alexis the new silo?
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Introduction
Gastroschisis is a well-known condition in pediatric surgery. In 1733, Calder was the first one to describe the congenital defect of the anterior abdominal wall, which is accompanied by the extraabdominal hernialisation of the bowels, the liver and sometimes of the pelvic organs. The operation procedures that are used today were created through many years of practice. The severity of the condition is determined by the amount
of protruding organs, the time when the defect of the abdominal wall was formed, the condition of the organs and the hypoplasia of the abdominal cavity. If the defect cannot be closed primarily, the umbilical cord, various plastics and silos can be used for temporary coverage.

**Case study**

The purpose of this paper is to present the Alexis wound protector/retractor, which is already well-known in thoracic surgery, as a supplementary device for the silo bag. An XS size Alexis ring was used in our institute for the operation of a low weight new-born, who was born after the 38th week with gastroschisis and intrauterine retardation. On the 10th day after the surgery, the abdominal wall was closed with 10-11 H2Ocm intraabdominal and intravesical pressure.

**Conclusion**

We think that this appliance is worthy of demonstration because up to this point there was no medical technical device for this purpose that would be safe and always available; mostly we were compelled to manufacture a device individually and locally. The Alexis ring is a unified, tissue friendly tool, which may be suitable for preparing silos and to intelligently anchor it in the incubator. Both in its appearance, its material and its available sizes make it very appropriate for such interventions. Our experiences with this device may widen the repository of operative solutions for prematurely born and new-born babies who were born with gastroschisis or omphalocele.

**E 12**

**Inflammatory Bowel Disease surgery within a clinical paediatric surgical unit – results and experiences of the first 5 years**

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**Introduction**

The incidence of IBD (Inflammatory Bowel Disease) in childhood is continuously rising. Disease presentation within younger children and aggressive, therapy resistant progression requiring surgical intervention is not uncommon. Whether paediatric surgeons should operate these patients is a controversial issue. In 2012 we got involved in paediatric IBD surgical care, backed by paediatric gastroenterologists and adult IBD surgeons.

**Objectives**

To review patient profiles, indications and treatment outcomes.

**Methods**

Medical records of IBD patients operated between 1st. January 2012 and 31st. December 2016 were reviewed.

**Results**

29 patients underwent 49 operations (15 boys, 14 girls, avg.: 15,9 years, 24 Crohn’s diseases (CD), 4 ulcerative colitis (UC), 1 IBD unclassified). Indications included therapy resistant cases with failure to thrive or subileus,
and acute conditions. 37 operations on Crohn’s patients included 17 cases of bowel resection with or without stoma, 7 stoma creation or closure alone, 9 perianal operations, 3 intraabdominal abscess drainages and 1 ileus. Need for stoma was 33% in cases of L1 and 72% for L2 or L3 involvement. 10 operations on UC and IBDU patients included 4 two-stage ileal pouch anal anastomoses, a hemicolectomy and two reoperations. Laparoscopic interventions were preferred after the first years for L1 CD, UC and stomas. Reoperations occurred for 2 ileuses and 1 pouchitis.

**Conclusion**

The number of paediatric IBD -particularly CD- patients requiring surgery might justify their treatment in selected paediatric centers. Indication is often delicate; surgical interventions are heterogeneous. In case of colitis one stage operation is unlikely. Experienced paediatric gastroenterologist background is essential.

**E 13**

**Heterotopic Gastric Mucosa in Rectum in a child. Case report and literature review**

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An 9 year old otherwise fit and well child presented with a vague history of off and on abdominal pain, multiple visits to the toilet and passage of blood and mucous per rectum. The symptoms have been ongoing for 7 to 8 months before presentation. He has not lost any weight or had any other systemic complaints.

Clinical examination was unremarkable. An xray showed faecal loading. He was initially treated with laxatives. Blood work up was not suggestive of any significant pathology. He underwent upper and lower GI endoscopies which were suggestive of possibly the diagnosis of inflammatory bowel disease. He was treated with steroids. Azathioprine was added later on as well. Due to ongoing symptoms, a repeat colonoscopy was done and biopsy this time confirmed the diagnosis of ectopic gastric mucosa in the rectum.

Patient underwent surgical mucosectomy. The patient remains asymptomatic after 1 year of the procedure. Gastric heterotopia is most commonly seen in oesophagus. Less than 100 cases have been reported of this extremely rare disorder. Very few cases have been reported in the paediatric age group. There are different theories trying to explain the presence of mucosa in this site. Presentation includes bleeding per rectum, tenesmus, anaemia, perforation, peri anal fistula, rectovesical fistula and possible malignant transformation. Symptomatic control has been described with H2 blockers and proton pump inhibitors. Surgical excision offers definitive treatment but recurrence is known.
E 14
Two separate complications of Schönlein Henochs purpura in a pediatric patient. A case study, and a review of literature.

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Introduction
Henoch-Schönleins purpura (HSP) is an IgA mediated small vessel vasculitis, that involves the skin, the kidneys, joints and the gastrointestinal tract. Although a primarily spontaneously healing disease, in rare cases it may present itself with serious or even life threatening complications, which present the need for surgical intervention.

Case study
We present here a 4 year old female patient of whom acute-abdominal symptoms followed the appearance of purpurae on the fifth day. The abdominal ultrasound showed intussusception of the bowels. Following a CT scan, acute surgery was performed, during which we resected the intussuscepted bowel. On the third post-operative day a septic state ensued, and a second emergency surgery was performed, to reveal a perforation site far from the first anastomosis. After resection of the perforated bowel the patient was admitted to the ICU for supportive therapy, and after a steady healing tendency was discharged in good clinical state.

We searched the PubMed database in the last 10 years to find similar cases of surgically relevant GI complications. We found 17 patients, of which one was strikingly similar to our own. We found, that the majority of mentioned cases was appendectomy or bowel resection. We presume, that the most common complication, intussusception is not published, because of its prevalence. The published cases had a mostly positive outcome except for one patient whose illness was lethal.

Conclusion
The specialty in our case lies in the fact, that two statistically rare complications of HSP was observed in a single patient. With this presentation we would like to point out that a patient with a severely presenting disease may show multiple complications at once, and that close monitoring of endangered patient groups may help prevent possibly fatal outcome in patients like ours.

E 15
Segmental absence of intestinal musculature – Case Report

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Introduction
Segmental absence of the intestinal musculature (SAIM) is a known but clinically rare entity involving partial or complete absence of the intestinal muscularis propria. This pathology can be classified into two groups:
primary and secondary. Clinical presentation is consistent with peritonitis and the treatment involves emergent laparotomy and bowel resection. Diagnosis results from histopathologic evaluation.

**Case Description**

In a 2-year-old girl previously observed in another hospital with abdominal pain, vomiting, fever and diarrhoea treated with intravenous ceftriaxone, ultrasound examination showed intraabdominal abscedation. In admission to our Department Varicella rashes on the face and chest were noticeable and acute abdomen could be examined, but no more abnormalities were found. Due to the suspicion of perforated appendicitis, urgent surgery was performed. During laparoscopic exploration, severe adhesions and abscesses were found. Adhesiolysis and oncotomy was performed laparoscopically but conversion was necessary. Appendectomy was performed and a nearly 20 centimeter long pathologic ileum section was resected with end to end anastomosis. Histological studies demonstrated the absence of the muscularis propria layer of the affected intestinal tract and inflammation occurred due to bacterial permigration of the pathologic ileum tract. In the postoperative period she needed blood transfusion, inflammatory indicators decreased due to antibiotics, active Varicella infection passed off, passage started slowly, but no complications occurred.

**Discussion**

In summary SAIM is a challenging disease with variable clinical presentation not only in neonates but also in higher age group. Our case was a long-lasting asymptomatic primary form with acute abdominal symptoms, and was affected by the Varicella infection caused immunosuppression. With the resection of the affected intestinal tract and end-to-end anastomosis, the patient was cured without complications.

**E 16**

**Appendicitis in Child: What Has Changed During the Last 30 Years?**

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**Aim**

During the last 30 years the management of acute appendicitis (AA) has been improved. Aim of this study was to compare the 30-year-old and the recent data at the first authors’ institute.

**Methods**

Data of patients under 18 years with AA between 1976 and 1985 (group A) and medical records of patients who had surgery because of suspected AA in 2016 (group B) were analyzed. Patients with leukemia and elective appendectomy were excluded. Patients in Group A were diagnosed with physical examination and lab tests only. In Group B diagnosis was supported by ultrasound and CT scan.

**Results**

Group A (n=1293): All surgeries were performed open using McBurney incision. Rate of negative appendectomies was 23.6% including Meckel’s diverticulitis and intussusception (0.39%), ovarian torsion...
(0.23%), adnexitis and IBD (0.08%).

Group B (n=166): Both open (122 pts - McBurney in 83 and Lanz incision in 34 pts, median laparotomy in 1 pt) and laparoscopic approach (44 pts) were applied. Negative appendix rate was 6.1% in this group including ovarian torsion (0.6%) and simple ovarial cyst (1.2%). More surgical site infections and Douglas abscesses (2.93%, 0.9% vs. 5.4%, 1.8%), however, less perforations were noted (20.6% vs. 11.07%) in this group. There were no differences in postoperative ileus between the groups.

**Discussion**

Nowadays, less negative appendectomies and perforated cases (earlier diagnosis) strongly support the fact, that diagnostics is better than 30 years ago. Laparoscopic approach, recently introduced at the first authors’ institute, might provide shorter hospital stay and less postoperative complications later.

**E 17**

**Negative wound pressure therapy of pilonidal cysts— our early experience**

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**Introduction**

Treatment of the large pilonidal cysts in adolescent age can be challenging and lasts for several months if the primary wound closure is not possible. When a big cavity remains after excision, prolonged healing of the sacral wound can lead to complications like wound infection and local dermatitis. Recurrence is higher in these cases. Negative pressure wound therapy’s (NWPT) promoting effect on wound healing is well-known. Our aim was to reduce time of therapy among these patients with this technique.

**Materials and methods**

NWPT was used in 3 cases, 2 of them with extensive pilonidal cyst. After performing the excision of the cyst and fistulas Vivano® system was applied on the wound's cavity until it has almost filled up. The primary size of the excised tissue was up to 15x10x5cm in 2 of 3 cases. Extension of the wound was documented in every 2 to 3 days when the bandage was changed.

**Results**

NWPT procedure was performed with hospitalization for 7-14 days, until the wound cavity has filled up. After NWPT the treatment continued using antimicrobial and absorbent dressings. Total epithelization and wound healing was seen after 6 to 13 weeks. During NWPT therapy the wounds were presented without inflammation and phlegm. There were no adverse events after using NWPT.

**Conclusions**

NWPT is a promising method to reduce therapeutic time in large pilonidal cysts. Faster healing may reduce the possibility of complications and recurrence. Although time of hospitalization was longer but these patients were able to get back to their normal lifestyle earlier than patients with standard therapy.
**E 18**

**Surgical Treatment of Tessier 30 facial cleft. When, what and how to operate?**

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**Aims and Objectives**

Midline clefts of the lower lip, mandible, tongue and neck are rare congenital abnormalities. First reported by Couronne in 1819. To date around one hundred cases have been published in the literature. There is a lack of consensus regarding the methods and the timing of corrective surgery. The aim of the presentation is to detail the treatment and follow-up of our patient and to discuss the timing of the surgical steps.

**Material and Methods**

Our patient was referred to us on her day of birth with midline cleft of the lower lip, ankyloglossia, a polipoid structure in the pharynx, cleft palate and cleft of the mandible.

She underwent removal of the polip, reconstruction of the tongue and the lower lip as a first operation. At age 16 months the patient underwent cleft palate repair (Furlow palatoplasty). At age 11, following orthodontic treatment, she had the reconstruction of the mandible, using 2 miniplates. Pre- and postoperative assessment included 3D CT and Cone Beam CT (CB CT).

**Results**

By age 13 good soft tissue correction, good result of the velopharyngeal function and complete ossification of the mandibular defect with acceptable mandibular chin contour was achieved.

**Summary**

Due to the rarity and variation of severity of Tessier 30 mandibular cleft, the treatment plan and timing of surgical interventions should be individualized. Further surgical steps might be necessary in the future in our patient.
Surgical treatment of rare facial clefts – A case report

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Craniofacial clefts are very rare congenital anomalies, incidence varies between 1.4-4.9:100000. Every surgeon dealing with these malformations suggests to be inventive during the treatment for the best result. There are no standardised protocols, no extensive studies exist. We are presenting 2 cases of Tessier 4 and 3 facial clefts respectively, the 1st one a primary closure, the 2nd a reoperation.

Case1: 11 m.o. boy, referred to us as a newborn due to a right unilateral Tessier 4 facial cleft. Further investigation detected asymmetric lateral ventricles, ASDII, but no other major anomalies or chromosomal defect. After consulting with paediatric ophthalmologists we designed a joined approach by closing the soft tissue defect with a one-stage repair. We used local rotational and transpositional skin flaps after closing the orbicularis oris muscle.

Case2: 31 y.o. female with a Tessier 3 type facial cleft on the right, a cleft palate, and a hypoplasia of the maxilla but no other congenital malformations. She had altogether 19 operations and apart from the last 2, all were performed in other institutions. She was admitted to our hospital for the secondary correction of the nose and the facial scars. On admission the right nostril was positioned upwards and everted, causing facial asymmetry. We used a rotational flap from the midline of the nasal bridge to correct the deformity.

Even in large centres dealing with cleft surgery, craniofacial clefts are rare entities and therefore every case needs very accurate preoperative planning. In these cases we reached an aesthetically optimal result.

What happens with the ileal epithelium following ileocystoplasty? – Histological findings in rats - Daniel Young Junior Prize 2015

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Introduction
The aim of this study was to investigate the histological alterations of the mucosa of the augmented bladder after ileocystoplasty — focusing on the urothelisation phenomenon — in rats during a 24 months follow-up.

Materials and methods
Ileocystoplasties were performed in male Wistar rats. Six-six animals were followed for 12 (Group A), 18 (Group B) and 24 (Group C) months. Group D comprised the sham-operated animals (vesicotomy), followed for 24 months.
At the end of the follow-up the augmented bladders were harvested and the native bladder, the ileal patch and the anastomotic line between them were examined histologically. Routine HE staining was performed. Two pathologists independently evaluated the sections.

**Results**

Group A (12 months): Hyperplastic urothelium was presented at the anastomotic line. On the adjacent villi of the ileal patch, epithelium was replaced with urothelial cells. In one animal a bladder stone was found and the histology revealed squamous cell metaplasia as well.

Group B (18 months): Similar histological findings were found as in Group A.

Group C (24 months): In one animal invasive transitional cell carcinoma developed. In another rat polypoid overgrowth was detected, furthermore microscopically hyperplastic urothelial epithelium was found. The remaining 4 animals showed similar, but more prominent histological changes as in Group A.

Group D (control): No abnormalities were detected.

**Conclusion**

Urothelial replacement of the ileal epithelium probably was due to the transformation of the columnar cells into urothelial cells which is caused by its continuous contact with the urine and proximity of urothelial cells.

**Correction of congenital breast asymmetry by autologous microstructural fat transfer**

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**Introduction**

In adolescence during and after the development of the breasts, congenital breast asymmetries become more conspicuous. This, conservatively untreatable problem, disturbs the psychical development and social integration of the child.

**Objectives**

The aim of our presentation is to present the technique of autologous microstructural fat transfer we apply at our department and our results in correction of congenital breast asymmetries.

**Methods**

The harvesting of the fat from the donor site is done by Power Assisted Liposuction and „multihole” cannulas. After sedimentation the fat is transferred into the hypoplastic or aplastic breast area with blunt, thin cannulas with 3D multilayer technique. The viability and high survival rate of the fat are ensured by cell-friendly technique.

**Results**

We present four adolescent patients with severe congenital breast asymmetry. We combined fat transfer with mastopexy in two cases, and with silicone implants in one case. We observed average more than 80% fat survival rate, somewhat higher than in the proportion mentioned in other studies (60-80%). The satisfaction index of the patients (on 1-10 scale) was increased in average from 2 to 8-9 regarding their breasts.
Conclusion
Autologous fat transfer is an internationally recognized, effective and safe technique for the correction of breast asymmetries. These genetical disorders may affect the young adult's psychical development, so the surgery should already be considered at the age of 15-16. In consideration of many different types of breast asymmetry, we suggest that the treatment plan and the applied combinations of techniques must be individually set in each cases.

E 22
How to treat deep-dermal partial-thickness burns in children? - Conservative versus operative treatment
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Introduction/Objectives
Deep-dermal partial-thickness(DDPT)-burns, also called II/2.degree-burns - mainly due to scalding - are one of the most common paediatric burn-injuries. The treatment choice is very controversial, some authors advocate conservative therapy relying on the ability of self-re-epithelialization of these wounds, which is possible but may be significantly prolonged. Others postulate operative treatment which may shorten the time of wound-healing. We aimed to evaluate our experiences in the management of DDPT-burns, comparing it with international literature data.

Patients/Methods
The hospital records of 116 consecutive in-patients who were treated in our tertiary-care paediatric burn centre with II/2.degree burn-injuries in 2015 were retrospectively examined. Demographic information, %TBSA, data about management and outcome were collected for all patients.

Results
All children with II/2. combined with III.degree(full-thickness) burn-injuries(n=29) were treated operatively. Children with only II/2.degree-burns (with or without more superficial injuries, n=87) were managed more conservatively(64%) than operatively(36%). II/2.degree-burns less than <10%TBSA(n=108) were treated either conservatively(54%) or operatively(46%), while II/2.degree injuries more than >10%TBSA(n=8) were managed all operatively(100%). In the operative group longer hospital-stay was observed (17.5 vs. 7.5days) which correlates mostly to the extent of burns. The blood transfusion requirement was significantly higher in the operative group (41% vs. 8%). There was no mortality in either group.

Conclusion
Our institute’s treatment strategy of II/2.degree-burns in childhood seems to correspond with international literature data. In accordance with some other authors we think that the extent of injury(%TBSA) is one of the most determining factors in the management decision of DDPT-burns in the paediatric population.
E 23
Anderson-Hynes Pyeloplasty: Can we do better Laparoscopically?
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E 24
Glans wings are separated ventrally by the septum glandis and frenulum penis. MRI
documentation and surgical implications
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Introduction
In the normal human penis, the glans wings are in apposition in the midline ventrally, and are separated by the
“septum glandis” and “frenulum” of the prepuce. However, most of the hypospadias repair techniques include
dissection of the glans wings and their approximation enclosing the neourethra within the glans.

Methods
In order to obtain detailed information about the normal anatomy of glans penis, MRI findings of the penis
were studied in three adults. Cross and sagittal sections of the penis were performed with a 1,5-T MRI scanner.

Results
The present MRI study has confirmed that the glans wings do not fuse at the ventral midline and are seperated
by a fibrous tissue (septum glandis). This fibrous tissue is connected to the frenulum, traversing the wings
of the glans penis. The glanular urethra forming the fossa navicularis has a wider caliber than the proximal
urethra and its walls are radiologically seen as the extension of that fibrous tissue.

Conclusions
The male urethra is not a uniform tubular structure and has distinct attachments in glans penis. The glans
wings are separated ventrally by the septum glandis and frenulum. In hypospadias, the septum glandis and
frenulum are entirely missing structures. Therefore, in hypospadias surgery, the anatomical features of the
glanular urethra must be taken into consideration.
Hypospadias repair with the glanular-frenular collar (GFC) technique

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Introduction
In the normal human penis, the glans wings merge in the midline ventrally, but are separated by the ‘septum glandis’ in conjunction with the frenulum. A new hypospadias repair technique is described which simulates the development of the glanular and subcoronal urethra.

Material and method
A total of 121 patients with varying degrees of hypospadias underwent surgery with the described technique: a Y-V plasty was used to dissect the inner foreskin in order to form a frenular mucosal collar. After tubularization of the proximal urethra, a partial spongioplasty was performed that extended up to the subcoronal level. The glans wings were approximated only at their outermost convexities, with a couple of subepithelial sutures, leaving a slit for the meatus. The cleft-like area between the split wings of the glans penis was filled with the terminal ends of the spongiosum and the dartos of the mucosal collar, which converged to form a septum and a neo-frenulum (glanular-frenular collar, GFC).

Results
At a mean follow-up of 10 months, two patients developed urethral fistula (2%), six had meatal stenosis (5%), and two had glans dehiscence (2%) that resulted in meatal retraction. Overall, patients had a cosmetically satisfying appearance. Forty-one received secondary circumcision; the parents of 80 (66%) patients were satisfied with the final foreskin appearance obtained with this method.

Conclusion
In hypospadias surgery, the approximated glans wings should allow for ventral support of the glanular and subcoronal urethra through a reconstructed neo-frenulum. The employment of a GFC provided: 1) an anatomical restoration of the distal (glanular and subcoronal) urethra, supported by a frenulum; 2) a protective (undissected) dartos layer over the distal part of the tubularized neourethra; and 3) a space for the re-formation of the fossa navicularis.
E 26
Results with „Manchester anatomical repair” for distal hypospadias
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Introduction
A national audit examining the results of 15213 primary hypospadias repair found the complication rate was lowest at the Paediatric Urology Department in Manchester among the 22 paediatric urology centres in Britain. The “Manchester anatomical repair” done for distal and midshaft hypospadias includes urethroplasty, reconstruction of the spongiosa, glans, dartos fascia and foreskin. Results of a personal audit are reported.

Methods
The records of all distal/midshaft hypospadias repairs performed by the author were examined between the period April 2014 and December 2016. The records were examined for fistula, meatal stenosis and the retractability of the reconstructed foreskin.

Results
There were 100 distal hypospadias cases done between the stipulated period. 10 patients were lost to follow up. The age range was 1 to 11 years, with an average age of 2.5 years. All patients underwent a Manchester anatomical repair and 69 patients had foreskin reconstruction done at the same time as the hypospadias repair. The patients were reviewed 3–6 months postoperatively. One fistula, 3 meatal stenosis, were identified and required further intervention. One of the 69 patients who underwent foreskin reconstruction developed foreskin fistula. Five patients presented with tight foreskin on initial follow but only 2 of them did not resolve and required circumcision later.

Conclusion
The Manchester anatomical technique has excellent results in the management of distal / midshaft hypospadias repair and it is reproducible.

E 27
Transverse preputial island flap urethroplasty in re-do hypospadias repair
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Introduction
After failed hypospadias repair, especially in patients with several previous operations the use of local flaps is not possible. 1 or 2 staged preputial flap urethroplasty can be the solution for these patients. Our aim was to analyse our experience with Duckett urethroplasty in re-do hypospadias surgery.
Material and method
Retrospective analysis was performed on patients operated between 2011 and 2016. Age, previous operations, preoperative status, operative findings and results were observed.

Results
13 patients were operated at mean age of 7.5 years (2-14). Number of previous operations was 3 (1-7), 5 patients coming from other hospitals, countries. Type of previous surgery was known in 8 boys: n=4 Cecil, n=2 Mathieu, n=1 lateral based flap, n=1 Beck urethroplasty. Time elapsed since the last operation before Duckett urethroplasty was 4.5 years (0.5-11.5).
Preoperative meatal location was penoscrotal in n=7, mid-shaft in n=4 or distal in n=2. Severe curvature was present in n=8 and fistula in n=2. N=1 child had meatal stenosis causing voiding difficulty. 2 teenagers after Cecil operation had hairy neourethras.
In all patients Duckett in-lay urethroplasty was performed, in n=8 together with chordectomy. Length of hospital stay was 9 (7-15) days. There were n=4 fistulas, 1 closed spontaneously, 3 needed successful fistula closure. 1 disruption of the neourethra was corrected later with staged Braca repair using buccal mucosa graft. Mean follow-up is 21 months (10-60) without significant complaints; only n=2 minimal neourethra dilatation.

Conclusion
Re-do hypospadias surgery is challenging, especially in patients with several previous operations. Duckett in-lay urethroplasty- although with higher complication rate, than in primary cases- offers a single stage solution for these patients with good long term results.

E 28
Effect of frequency of urinary tract infections on histological findings in bladder augmented children - long - term follow up
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Objective
Bacteriuria might play an important role in the pathogenesis of reservoir tumours following urinary bladder augmentation. Present study evaluates the correlation between the histological changes and urinary tract infections following urinary bladder augmentation using different parts of the intestinal tract, in a long term follow-up.

Patients & Methods
Between 1987 and 2016, 90 bladder augmentations were performed at the first author’s institute. Seventy-three patients (16 gastrocystoplasties, 32 ileocystoplasties, 25 colocystoplasties — mean age at operation 11 years) with more than 4 years of follow-up were included. Follow-up time ranged between 4 and 24 (mean
11.3) years. Histological samples were taken endoscopically from the native bladder, from the anastomotic line and from the intestinal segment used for augmentation. Urinary cultures were collected according to a biannual follow-up protocol. Correlation between frequency of urinary tract infections and degree of histological changes were statistically evaluated (khi-squared, independent T-samples and ANOVA tests).

**Results**

In patients with colocystoplasty 1 in-situ carcinoma, 5 squamous cell metaplasias, 3 dysplastic changes and 1 colonic-type metaplasia were detected. Following gastrocystoplasty 4 squamous and 2 colonic-type metaplasias, after ileocystoplasty 3 squamous cell metaplasias were found. The highest frequency of urinary tract infections were found after colocystoplasty (59%). Stomach (38%) or ileum (42%) didn't show any significant differences. Degree of histological changes in colonic and ileal mucosa significantly correlated with the rate of urinary tract infection.

**Conclusion**

Our findings support that the frequency of urinary tract infections plays an important role in the histological alterations (pre-malignant changes) following urinary bladder augmentation.

**E 29**

**Root cause analysis of lost surgical needle during laparoscopy**

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**Introduction**

Intraoperative loss of surgical needles is a rare, but known complication of laparoscopic surgery, retrieval may be difficult. We analysed an adverse event when a small suture was lost in the abdominal cavity during laparoscopic pyeloplasty.

**Material and methods**

A 17 mm half circle needle with 3–4 cm long 5/0 Polysorb suture was grasped approximately 1 cm below the needle with 3 mm Storz assistant needle holder (ANH) and was pulled out slowly trough a 5 mm Storz port with 3 mm rubber reducer on top under direct observation and was lost. Intraoperative X-ray showed the needle behind the liver under the diaphragm. We hypothesized the ANH was not holding the suture tight enough to pull trough the valve, which shot the needle out as a projectile. We confronted 3 of our 3 mm instruments the Storz needle holder (NH), ANH and Johan grasping_forceps (JG) to find out which one is the safest for stitch removal. 10 cm 5/0 Polysorb suture was grasped at one end with the NH and the other end with ANH and pulled until one of the instruments released the thread. Instrument kept the suture was given one point. The same procedure was repeated with the NH and the JG and with ANH and the JG ten times each.

**Results**

NH vs. ANH: 10:0, ANH vs. JG: 9:1, NH vs. JG: 10:1
Conclusion
The NH is the safest while JG seems the less safe instrument to remove needle during laparoscopy.

E 30
Optical balloon port makes access to the retroperitoneal space easier
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Introduction
Deep dissection, placing reliable stay suture in the thoracolumbar fascia may be difficult during laparoscopic access of the retroperitoneal space and can lead to air leak and collapse of working space. Optical balloon ports offer quicker and easier access, no stay sutures required and there is no air leak and collapse of working space.

Material and methods
Records of 42 consecutive patients underwent retroperitoneal approach for laparoscopic nephrectomy or heminephrectomy with the conventional technique (Group 1, n=21) and with the optical entry (Group 2, n=21) between June 2015 - July 2016 were reviewed. The time taken for access, concerns with gas leak, wound extension for specimen removal and muscle closure at port site were compared.

Results
All procedures were completed, no conversions/complications occurred. There was no significant difference in age, weight between the groups. In Group 1. the mean time for access was 9 (5-19) minutes. Gas leak was recorded in 13 patients, wound extension for specimen removal required in 6 patients, muscle closure in 21. In Group 2 the mean time taken for access was 2.5 (1-7) minutes, there was no gas leak. In 12 patients wound extension was necessary for specimen removal. Muscle closure was performed in 12 patients.

Conclusion
Optical technique provides quick access to the retroperitoneum with no air leak. About half the specimens could be removed without extending the wound thus avoiding the need for port site closure.

E 31
Laparoscopic repair of retrocaval ureter
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Introduction
Retrocaval ureter is a rare congenital anomaly, and seldom causes symptoms thus rarely is revealed in childhood. Persistence of the right subcardinal vein in embryologic life results in retrocaval position of the ureter, which may lead to obstruction of the ureter.
Case report
In a 13 year old boy routine ultrasound (US) showed severe dilatation of right kidney pelvis, calices and tortuous proximal ureter. Dynamic isotopic study described organic obstruction. MR urography revealed right-sided retrocaval ureter. On laparoscopy from transperitoneal approach after mobilisation of the ureter, it was divided above its crossing under the vena cava inferior (VCI). No stenosis was found, and a primary anastomosis was sutured anterior the VCI above a J-J stent. Postoperative course was uneventful. Patient was discharged on day 2. 12 weeks later the stent was removed. On follow-up (5 months) the child is symptom-free.

Conclusion
Retrocaval ureter is a rare anomaly of the VCI causing obstructive uropathy. In case of atypical US findings MR urography helps making the diagnosis. Laparoscopic approach offers a perfect possibility for extensive retroperitoneal dissection and minimal invasive correction of the anomaly.

E 32
Is laser lithotripsy a new standard for the treatment of pediatric urolithiasis?
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Introduction
There is no consensus about the most effective treatment of urolithiasis in children.

Objective
To evaluate the effectiveness of laser lithotripsy in the surgical treatment of urolithiasis in children.

Patients and Methods
Retrospective analysis of 105 patients with urolithiasis, aged 1 to 18 years, treated from February 2012 to May 2017.

Results and Conclusion
Ureter: All 24 patients with stone size less than 5 mm were cured with single treatment. In 15 patients stone size was 6 to 10 mm. Fourteen out of fifteen were cured with single treatment and in one patient second treatment was needed. Five patient with the stone size more than 10 mm were cured with single treatment and one patient with two treatments.

Kidney: All 14 patients with stone size less than 10 mm were cured with single treatment. In 32 patients stone size was 11 to 15 mm. Twenty-four out of thirty-two were cured with one treatment. In 8 patients second lithotripsy was needed. In 17 patients stone size was more than 15 mm. Ten patients were cured with single treatment, in five patients second treatment was needed and in two patients the third treatment was performed. Overall stone free rate was 97%. The only complication related to surgical procedure was perirenal haematoma in one patient (1%).

Laser endoscopic lithotripsy is minimally invasive, effective and safe surgical procedure for the treatment of
urolithiasis in children with minimal complication rate. The effectiveness is partially limited to stones in lower pole calices of the kidney.

E 33
**Instillation versus Injection of Triamcinolone for Idiopathic Urethritis**

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**Introduction**  
Idiopathic urethritis (IU) is a common presentation to Paediatric Urology but little is known about optimal management.

**Objectives**  
To compare cystoscopic instillation and injection of triamcinolone as management of IU, based on number of treatments required and duration of symptoms.

**Patients & Methods**  
Retrospective data collection of patients diagnosed on cystoscopy with IU (2010-2015). Presenting symptoms, medical history, management and outcomes were analysed. Results shown as median (range), and analysed with student’s t-test.

**Results**  
57 patients were included. Median age at presentation was 12 (4-16) years. Presenting symptoms included: haematuria in 34 patients (60%); dysuria in 40 (70%); another site of pain in 18 (31%); urinary symptoms in 26 (45%); and urinary retention in 3 (5%). Past medical history included: atopic conditions in 14 (25%); circumcision in 21 (37%); hypospadias in 2 (4%); and scrotal exploration in 6 (11%) with pathology found in 5. All patients underwent abdominal ultrasound: normal in 51 (89%); epididymal cyst in two; mild-moderate hydronephrosis in three; and renal calculus in one. 33 patients had cystoscopic triamcinolone instillation into the bladder, with 2.5 (1-8) procedures/patient, and duration of symptoms 26.5 (3-79) months. 14 had cystoscopic injection of triamcinolone into the posterior urethra, with 1.3 (1-5) procedures/patient (P = 0.0810), and duration of symptoms 11.5 (8-30) months (P = 0.1825). 9 patients received both with 2.4 (2-5) procedures/patient. 1 patient required suprapubic catheter for urethral stricture.

**Conclusion**  
Cystoscopic injection of triamcinolone may be preferable as treatment for IU — with a trend towards fewer procedures per patient.
E 34
The macroscopic and microscopic appearance of the bladder template in exstrophy patients undergoing delayed exstrophy repair
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Aim
To correlate the macroscopic appearance of bladder templates in classic exstrophy with the histological features of the polyps after resection.

Methods
Since 2007 the authors have routinely delayed BE closure to 3-6 months of age regardless of the size and quality of the bladder template. The bladder templates were photographed and classified prior to BE closure using the following criteria: Group A -smooth, no polyps, Group B 1-5 polyps, Group C >6 polyps. Fisher’s exact test compared the proportion of patients in each group with intestinal metaplasia. Bladder polyps, if present, are removed prior to closure and sent for histological evaluation.

Results
Sixty-three patients with classic bladder exstrophy patients were classified using the above polyp score; 21 patients (33%) had a smooth bladder template, 42 patients (66%) had a polypoid bladder template (29 group B, 13 group C). Forty-one of the 42 patients with polyps had polyp resection prior to BE closure. Two patients had a second polypectomy prior to BE closure. A significantly higher proportion of patients in group C demonstrated intestinal metaplasia within the resected polyps compared to group B (61% vs 17%) p=0.009.

Conclusions
Intestinal metaplasia appears to be more prevalent in those with severely polypoid bladder templates. A careful strategy is needed for these patients to maximise the chance for successful BE closure and the authors suggest polypectomy prior to BE closure. Polyp regrowth does not appear to be a major problem as 5% required a second polypectomy prior to BE closure.

E 35
“How to save as much of the family jewellery as we can?”
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Introduction
The testicular torsion is a disease, when this condition is suspected, urgent surgical intervention is needed. The outcome regarding the testicles is significantly influenced by the time from the first symptoms to the operation. In some cases there is no other choice but to remove the testicles. The purpose of our examination is to better understand the factors that influence the future of the testicles.
Methods
We retrospectively analysed our testicular torsion cases that we encountered at our department between 2005 and 2016. During the examination, we observed the time between the beginning of the symptoms and the operation. We analysed the factors determining late medical attention. During the surgical attendance, we performed control physical and ultrasound examinations to check upon the condition of the remaining testicles.

Results
During the 12-year scope of our study, 563 children were accepted with acute scrotum diagnosis. In 89 cases of these we found testicular torsion. In 53 operations out of the 89 we decided to keep the testicle, as we found it viable after the detorsion. In 36 cases we had to remove the torquated testicle.

Conclusion
Acute scrotum is a relatively common syndrome. According to the literature, 5-35% of these cases is due to testicular torsion — in our case it was 15.8%. In 40% of the testicular torsion operations we had to remove the testicle; in the majority of the cases the deciding factor was the long anamnestic time. This is partly due to the age of the patients, unfortunately, in some of the cases the reason for the delay was that the medical staff of the first attention was not careful enough in performing the anamnesis and the physical examination. In order to be able to save a greater percentage of the testicles, we think that it is important to inform the parents and to regularly refresh the knowledge of child medical care workers.

E 36
Bilateral simultaneous testicular torsion in a 17-year-old boy
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A 17-year-old patient presented with 1-hour history of severe left hemi-scrotal pain, radiating to left groin and nausea. Physical examination revealed pale patient, left testicle was positioned higher than the right side, lying obliquely, extremely tender and mildly enlarged. The right testicle was of normal size and non-tender. There was negative cremasteric reflex on the left side. Emergency ultrasound scan showed no intratesticular colour flow (circulation) in the left testicle. The left epididymis was grossly thickened with moderate left scrotal hydrocele. Colour flow was seen in right testicle and epididymis. Emergency left hemi-scrotum exploration showed dusky left testicle with 720° clockwise torsion of the spermatic cord. The left testicle was untwisted, its circulation improved. Then the right hemi-scrotal exploration was performed, which revealed 180° clockwise torsion with normal coloured testicle. Following untwisting the right testicle, bilateral orchidopexy performed.

Conclusion
Bilateral testicular torsion is extremely rare, mostly occurring in neonates, but may also occur in adolescents or adults. Emergency bilateral hemi-scrotal exploration, testes untwisting and bilateral orchidopexy is mandatory in patients presenting with acute scrotal pain.
**E 37**

**Bilateral multiplex Wilms tumor**

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**Objectives**

In bilateral Wilms tumor the primer nephrectomy on the more affected side and partial resection on the other side was accepted method, but follow up studies proved the worsening of kidney function. There are no evidences yet regarding the optimal way to preserve the maximal renal tissue and to provide sufficient oncological treatment.

**Methods:** We retrospectively analyzed the data of patients treated in our unit with synchronous bilateral Wilms tumor in the last 10 years.

**Results**

5 patients were found; all were infants at the first admission (av. 5 month). Male/female ratio: 1/4. None had pulmonary metastasis, or lymph node enlargement.

2 patients underwent primer nephrectomy and partial resection. Both patients had postoperative chemotherapy, and both have worsening kidney function on the follow up.

3 patients underwent staged nephron-sparing surgery started on the less affected side after preoperative chemotherapy. The timing of the operation was determined by regular MRI or US. The histology was favorable in 2, unfavorable in one case. The 2nd stage contralateral nephron-sparing surgery attempted after interval chemo and followed by chemotherapy. None of the patients got radiotherapy. All but one patient is tumor free, all has both side significant renal tissue, and all has normal kidney function. One recurrence occurred; nephron-sparing surgery was done. The mean follow up is 4 years (12 months–8 years).

**Conclusions**

The preoperative chemotherapy may decrease the rate of nephrectomy. The staged nephron sparing surgery carried out after preoperative chemotherapy, with interval and postoperative chemotherapy seems safe and effective way to preserve the maximal amount of renal tissue.

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**E 38**

**Papillary thyroid cancer, role of surgery in the complex treatment**


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**Background**

There are concerns about the optimal surgery in papillary thyroid carcinoma. From 2006 we moved on the total thyroidectomy and regional lymph node biopsy as the first attempted procedures in all cases, to provide...
opportunity for postoperative iodine isotope therapy. There are few evidences about the results of this procedure.

**Methods/Results**

We retrospectively analyzed the data of the children with papillary thyroid cancer in our unit from 2006-2016. 29 patients were found, the mean age 15.3 year (7-20), M/F ratio 8/21. FNAB, US and MRI were done for all. 1 pulmonary metastasis detected. 12 patients had regional pathologic lymph nodes. 13 patients underwent lymph node biopsy, central neck lymph node dissection done in 5 cases. The recurrent laryngeal nerve and the parathyroid glands were identified and preserved.

None of the patients had recurrent nerve lesion, or permanent hypocalcaemia. 13 out of 29 patients received postoperative iodine isotope therapy. Only 5 out of the 13 had pathologic lymph node enlargement postoperatively. 4 out of 5 had isotope treatment twice, one patient 3 times. 4 out of 5 underwent extended regional lymph node dissection despite the isotope treatment.

The average follow up was 63 months (6-131 months).

**Conclusions**

The primary total thyroidectomy in cases of papillary thyroid carcinoma is effective and safe procedure, the complications, (recurrent nerve injury or hypocalcaemia) can be minimized by experienced surgeon. The postoperative iodine isotope therapy seems less effective for pathologic enlarged lymph nodes, in these cases the primer regional lymph node dissection should be prior to the isotope therapy.
21 patients (75%), tumor markers (Ferritin, LDH and NSE) were elevated. All patients had surgical intervention, in 12 cases (43%) only biopsy was performed, in 15 cases (53%) total tumor resection was successful, and in 7 cases (25%) after chemotherapy second or third look surgery was performed. 90% of the patients received chemotherapy, 30% radiation therapy, and 25% of the children had bone marrow transplantation. The histological diagnosis was malignant neuroblastoma (21 patients, 75%), ganglioneuroblastoma (4 patients, 14%) and mature ganglioneurinoma (3 patients, 11%). Nine patients (32%) died during the treatment, and nineteen patients (68%) are currently under oncology care.

Conclusions
In conclusion tumors originating from the gangliated cord occur with varying histological appearance. As part of the treatment process surgical treatment has a prominent role in case of localized and low-malignant tumors, but in case of aggressive and extended tumors combined therapy is expected to be more successful.

E 40
Transscrotal orchiectomy in testicular tumors
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Background
The standard surgical procedure in the treatment of testicular tumor is the high radical orchiectomy. At puberty, the first medical exam often detects giant size advanced tumors, when the standard groin incision needs long scrotal extension. If the tumor broke through the testicular capsule or tumor spillage happens further scrotal skin resection should be performed. The simple inguinal skin crease incision with high transsection of the vas followed by scrotal crease incision and transscrotal extracapsular orchiectomy including the “en mass” removal of tunica Dartos and cremaster muscles may provide accurate tumor removal and better cosmetic results.

Methods
We retrospectively analyzed the children underwent transscrotal extracapsular orchiectomy in our unit since 2010. focused on the feasibility of the procedure and the cosmetic results.

Results
11 patients, 7 had germ cell tumor, 4 had paratesticular rhabdomyosarcoma. The follow up is 3 years 6 months in average. All the patients underwent high vas dissection and transscrotal extracapsular “en mass” orchiectomy. 3 had significant scrotal hematoma. All the patients have almost invisible scars both on the groin and scrotum. Since the scrotal skin has been barely resected the size of the remained scrotal skin is enough for the testicular prosthesis implantation in all cases. Nor local nor distal recurrence has been observed on the follow up.

Conclusion
The experience with transscrotal extracapsular “en mass” orchiectomy following high vas dissection is limited, but the preliminary results suggest that the procedure is feasible, provides excellent cosmetic result and adequate oncological radicality and completely prevents the intraoperativ tumor spillage.
E 41
The safety and efficiency of minimal invasive surgery in pediatric oncology
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Although minimal invasive surgery is an accepted method in pediatric surgery, its role in pediatric oncology is still under evaluation.

In a single institutional retrospective cohort study we tried to analyze the eligibility of minimal invasive surgery regarding diagnostic and therapeutic surgical procedures.

In a period from 2015 to 31.05.2017, all patient’s data who underwent surgeries due to suspected or proved intra-abdominal or thoracic malignancies were analyzed. Total number of patients and interventions, purpose of surgery (biopsy vs. tumor removal), intra- and postoperative complications, and survival rate were analyzed both in the open (OP) and in the minimal invasive (MIS) subgroups.

We have found a total of 103 patients underwent 112 surgeries. There were 32 diagnostic and 80 therapeutic procedures. Only 33 interventions were in the MIS group (33/112), the majority of surgeries were done openly (79/112). 6 from 32 biopsies were in the MIS group, whereas 27 from 80 tumor removals were initiated endoscopically. There were 6 conversions (18%); 1 during a biopsy, 4 during laparoscopic and 1 thoracoscopic tumor removal. We encountered no intraoperative complications in the MIS subgroup, major bleeding occurred in 8 of the open cases. 75 patients are alive, 6 were lost to follow-up and 22 have been deceased. After open resections 11/53 (20%) patients died because of recurrency, this ratio is 3/27 (11%) in the MIS group. Minimal invasive techniques seem to be as safe as conventional methods in the diagnosis and removal of pediatric abdominal and thoracic tumors.

E 42
Sclerotherapy with use of doxycycline
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Objectives
To assess the use of doxycycline as a sclerosing agent in lymphangiomas, spleen cysts and postoperative lymphoceles.

Materials and methods
A retrospective study was done. From 2014, our patients (n=10) suffering from lymphangiomas, spleen cysts and postoperative lymphoceles were treated by percutaneous, open or laparoscopy-assisted tube drainage for an average of 3.5 days.

Doxycycline combined with Vitamin-C was instilled into the cavity of cysts, after any remaining cyst fluid was
removed through the tube. Sclerosing was applied once a day for 3-5 days. Before the next sclerosing, the remnant of the previous sclerosing agent was aspirated from the cavity. After a few hours of the last sclerosing, the drainage tube was removed.

Results
Successful treatment (significant reduction of the cyst) of lymphangiomas, spleen cysts and postoperative lymphoceles was achieved in 10 of 10 patients. Three patients were complained some pain during the injection of the sclerosing agent. In one patient we have noticed excess tissue developing along the previous location of the drain, one month after sclerosing. There was no other complication noticed, related to doxycycline sclerosis.

Conclusion
Sclerotherapy with use of doxycycline after drainage of cysts is an easy, safe, inexpensive, and effective means of treating lymphangiomas, spleen cysts and postoperative lymphoceles.

E 43
Basic science and translation into patient care in Hirschsprung´s disease
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E 44
Can testis fixation with tissue glue be alternative for classical fixation? Experimental animal study
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Introduction
Testicle fixation with stitches seems to be golden standard especially after torsion. There are many opinions that breach of tunica albuginea continuity can be potentially dangerous in aspect of autoimmunological reaction. The authors have tested utility of tissue glue for testicle fixation in experimental study.

Objectives
Evaluation of tissue glue application for testicle fixation in animal model.

Material and Methods
Thirty hogs divided in three groups in ten each. In the first group one testis was fixed with tissue glue and contralateral part of the scrotum only revised without fixation. In the next group of 10 animals bilaterally testis were fixed with three Prolene (Ethicon) stitches. Third group was control with bilateral scrotal opening.
After 6 weeks animals were euthanized and dynamic study of bond strength was carried out in dynometer (Zwick 1435) by measuring force at the tear point of adhesions. Strength of adhesions after fixation with tissue glue and stitches we compared to control group.

Results
We found adhesions between tunica albuginea testis and spermatic fascia only in 25 % of animals after tissue glue fixation, in 94 % after fixation with stitches and in 45 % of control group. Force needed to tear adhesions after fixation with stitches was significantly higher than compared to other (p<0.05).

Conclusions
Tissue glue with its low effectiveness can not be alternative for testicle fixation. Adhesions appearing only after scrotal opening does not guarantee efficient testicular fixation. The best alternative still seems to be classical fixation with stitches.

E 45
Evidence that mucosectomy is diminishing ileal microcirculation and responsible for flap contraction in ileocystoplasty, omentopexy will not help
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Introduction
Ileocystoplasty with seromuscular flap has been a hot research topic in paediatric urology. It has been hypothesized that intestinal flaps suffer irreversible ischemic damage during mucosectomy, but no direct evidence like vascular thrombosis has been observed on histology and research was rather focused to prevent exposure of raw surface to urine with urothelium cover, or using balloons to keep bladder distended, but contraction of the intestinal flaps still remains major concern.

Omentum has been successfully used to revascularize different organs, like spleen, testicles or intestine.

Our aim was to study the effect of mucosectomy on the microcirculation of ileal flaps during reverse clam ileocystoplasty using intraoperative orthogonal polarising spectral imaging and test whether revascularisation by omentopexy prevents contraction.

Material and Methods
Clam ileocystoplasty was performed in anesthetised minipigs with sero-muscular (3), sero-musculo-submucosal (3) and full thickness (1) reverse ileal flaps. The velocity of the circulating red blood cells (RBCV) and the perfusion rate (PR) was measured with in-vivo microscopy (Cytoscan A/R) after mucosectomy and the raw surface was covered with omentum. Animals were sacrificed in 6 weeks and ileal flap dimensions were measured.
Results
Significant reduction in RBCV and PR has been detected after mucosectomy. Median RBCV deteriorated from 671 (614-691) to 126 (54-162) µm/s and median PR reduced from 100 (93-100) to 10 (6.5-20) % in sero-muscular group. In sero-musculo-submucosal group, median RBCV decreased from 665 (621-718) to 104 (89-143) µm/s and PR deteriorated from 100 (93-100) to 10 (5.5-20) %. Contraction of the flaps was significant in both mucosectomy groups despite omental revascularisation. Average length of flaps was 37 (±1) mm before mucosectomy and it reduced to 16 (±2) mm in sero-muscular group and to 20 (±2) mm in sero-musculo-submucosal group postoperatively.

Conclusion
We provided direct evidence that mucosectomy itself results in severe compromise in the microcirculation of the ileal flaps and it could be held responsible for contraction in ileocystoplasty. Omentopexy did not help.

E 46
Mucosectomy disrupting enteric nervous system may be contributing to flap contraction in ileocystoplasty with demucosalized ileal flap
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Introduction
Bladder augmentation with demucosalized ileal flap is a promising alternative approach for mucus free bladder augmentation, however the contraction of the flaps is still a major concern. Intact enteric nervous system (ENS) is essential to maintain intestinal integrity. Abnormal myenteric plexus with missing ganglia or nitricergic inhibitory neurons are thought to be responsible for conditions like Hirschsprung disease, Intestinal Neuronal Dysplasia or Hypoganglionosis where failure of the relaxation of the intestinal muscle results in motility disorder i.e. bowel obstruction. In mammals submucosal plexus contains NOS + inhibitory motoneurons responsible for muscle relaxation.

Objectives
We hypothesised mucosectomy disrupting (ENS) may be contributing to flap contraction.

Materials/patients & methods
Ileal mucosectomy was performed in 5 anesthetised pigs. In group I. only the mucosa was scraped off with forceps (sero-musculo-submucosal flap) while in Group II. the mucosa and submucosa was peeled off in one layer (sero-muscular flap). The width of the flaps was measured before and after mucosectomy. The ENS was assessed by Neurofilament and Nitric-oxid-synthetase immunohistochemistry.

Results
The flaps contracted from the original 100% width to 81,68 +/- 4,25 % in Group I. and to 72,675 +/- 5,36 in Group II. (p = 0,002). Equal Variance Test showed significant difference between Group I. and II. (p=0.009). The Neurofilament and Nitric-oxid-synthetase immunohistochemistry revealed the submucosus nervous plexus containing Nitric-oxid-synthetase+ neurons was separated from the myenteric plexus in Group II.
Conclusion
Mucosectomy results in significant flap contraction. The contraction is more severe when submucosa removed, this may be explained with disrupted ENS.

E 47
Examination of callus formation after tibial fracture in Pituitary Adenylate Cyclase Activating Polipeptide (PACAP) knockout mice - Daniel Young Junior Prize 2017
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Introduction
PACAP is a naturally secreted signaling peptide which has important regulatory roles in the differentiation of the central nervous system and several peripheral tissues. However, little is known about the connection of PACAP signaling pathways to osteogenesis and bone regeneration.

Aims
The authors investigated the morphology of callus formation in tibia of PACAP knockout (KO) and wild type (WT) mice and studied the signaling pathways regulating osteogenesis.

Methods
Experiments were carried out in 24 mice (KO:12 WT:12). Fracture location was 5 mm distal from the proximal articular surface of the tibia and depth was 0.5 mm. Mice were investigated with CT (Skyscan 1176 mikro CT) on the 3rd, 7th and 21st day to confirm fracture and to study bone healing (callus formation). Collagen type I, alcaline phosphatase (ALP) and bone morphogenetic protein (BMP) were analyzed using RT-PCR and western blot.

Results
Expression of collagen type I increased in callus formation of WT mice, but lower expression was detected in the callus of PACAP KO mice compared to controls. As a sign of enhanced bone formation increased protein expression of ALP was detected with western blot in both genotypes. Elements of the BMP signaling pathway were also investigated and increased BMP2, 4 and 6 were detected in WT mice, while decreased BMP expressions were shown on the 7th and 21st days in PACAP KO mice.

Conclusion
Results indicate that PACAP KO mice show various signs of disturbed osteogenesis and bone healing.
Cheap and clean dry balloon training model for laparoscopic pyeloplasty

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Introduction
Simulation based training has a very important role in surgical education. From wet-lab models, such as live animals or chicken legs to state-of-the-art 3D printed models, they have all been designed to facilitate a realistic experience. These can be expensive and difficult to obtain, store and handle, some of them requiring special licensing. We propose a simple, easy to make, cheap, dry and clean alternative training model for laparoscopic pyeloplasty.

Material and Methods
Commercially available spherical birthday balloons were cut and sutured to kidney shaped sponges. Sausage balloons were used as ureters. The assemblies were placed into pelvitrainers. Pyeloplasty was practiced with 3 mm laparoscopic instruments using 5/0 Vicryl suture. The model was assessed (1-5) by 17 paediatric surgical trainees participating in the Laparoscopic Workshop of British Association of Paediatric Endoscopic Surgeons (BADES) in Manchester in November 2016 and a mean score was calculated and compared to other models.

Results
The proposed model scored 4.29 +/- 0.77. The chicken leg model scored 4.71 +/- 0.47, the pyloromyotomy 4.59 +/- 0.51, the eventration 4.65 +/- 0.61, the appendicectomy 4.47 +/- 0.51, the inguinal hernia 4.35 +/- 0.79, the cholecystectomy 4.29 +/- 0.69, the bowel anastomosis 4.24 +/- 0.75.

Conclusion
Our model has proven its validity as a cost-effective and clean alternative to other available laparoscopic pyeloplasty models and it is suitable for teaching, training and workshops.

Magnetic compression anastomosis to simplify laparoscopic pyeloplasty - Report of preliminary experimental results

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Introduction
The Anderson-Hynes pyeloplasty is a technically difficult laparoscopic procedure with significant learning
curve. The most challenging part is the laparoscopic suturing of the uretero-pelvic anastomosis. Our aim is to design a device to simplify pyeloplasty. We tested if uretero-pelvic anastomosis could be created with magnetic compression force.

**Material and methods**

After ethical approval laparoscopy was performed in 3 pigs to dissect the pyelo-ureteric junction (PUJ) and create a side-to-side uretero-pelvic anastomosis with magnetic cylinders. The procedures were converted to open due to technical difficulty of inserting a nephrostomy catheter with the magnet into the non-dilated renal pelvis. In 3 further pigs the ureter was first loosely ligated. Six weeks later transperitoneal laparoscopic procedure was successfully used to tailor the dilated renal pelvis and perform a magnetic compression uretero-pelvic anastomosis with no nephrostomy. X-rays were performed on day 1 and day 7. The animals were sacrificed 6 weeks later, the position of the magnets, the patency of the anastomosis was assessed and Hematoxilin-eosin staining was performed.

**Results**

The magnets were attached to each other on the 7th day postop. Narrow anastomosis was seen in 3 cases where magnets moved below or above the anastomosis. Wide patent anastomosis was found in 3 cases when magnets remained at the anastomosis level.

**Conclusion**

It is possible to create uretero-pelvic anastomosis using magnetic compression force. A well-designed device may simplify laparoscopic pyeloplasty in the future making hand-driven laparoscopic suturing of the anastomosis and intracorporeal knot tying totally unnecessary.

**E 50**

**Nitrous oxide provides safe and effective analgesia for minor paediatric procedures - A systematic review.**

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**Introduction**

Pain and distress during minor hospital-related procedures is a familiar problem in many children. Inadequate relief of children’s procedural pain and distress not only affects the experience of the children and their parents, but also adversely impacts procedural success. We aimed to review the safety and efficacy of nitrous oxide during brief, but painful paediatric procedures and to compare nitrous oxide with some of the commonly used pharmacological and non-pharmacological treatments for relieving anxiety and mild to moderate pain in Denmark.

**Method**

We searched MEDLINE (PubMed) and the Cochrane Database of Systematic Reviews with the MeSH term...
nitrous oxide combined with midazolam, surgical procedures minor, analgesia or conscious sedation. Only articles written in English and published after 1980 were included to ensure optimal data collection.

Result: Nitrous oxide is an effective sedative/analgesic for mildly to moderately painful pediatric procedures. Furthermore, it is safely administrated, particularly for short procedures (< 15 min.). Serious and potentially serious adverse events are rare and occur in less than 0.5% of cases, while minor events typically occur amongst 4-8% of patients.

Conclusion
Nitrous oxide is a safe and effective method to achieve analgesia and sedation during minor, but painful procedures. It can be safely administered by a dedicated staff member. This helpful method is still underused in Denmark, and we believe that it could be an alternative or the first choice of treatment in emergency and pediatric departments.

E 51

Using N2O in outpatient supply

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N2O is used for a long time because of its analgetic and sedative property. Its effect evolve and ends fast, is not metabolised and doesn’t influence the respiratory reflex. It can be safely used in outpatient supply combining with oxygen thinking of the contraindication, for example face and brain injury, pneumothorax, ileus and otitis media. Livopan is a 50%-50% compound of the two gases, resulting the haemoglobin saturatiot is secure.

Since 15th July 2015 we have used this kind of anaesthesia on 138 patients for several cases such as reposition, abscess incision, suture, adhesiolysis, paraphimosis, etc., between the age 3 and 17. More than 75% of the intervention was reposition of different kind of fractures.

We would like to present and share our good experiences with this kind of anaesthesia, which is fast, safe and childfriendly.

E 52

The use of inhalative nitrous oxide in pediatric surgical emergency

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Introduction
In pediatric patient care, it is essential to minimize pain during the interventions. In clinical practice Livopan, a ready mixture of nitrous oxide (N2O) and medical oxygen (O2) can be easily used by inhalation. Nitrous oxide provides rapid pain relief, and also has a sedative effect. The use of Livopan is safe, has no serious side-effects, and an anaesthesiologist is not required.
Objectives
Our aim was to investigate the safety and efficacy of Livopan during different pediatric surgical interventions.
Patient and methods: Data was analyzed in 23 patients (male n=14, female n=9), ages between 4 and 18 years. All of them were treated in acute pediatric care. Patients had full control of gasflow by breathing through a facemask. The mean number of inhalations was 8 (4-15). The level of pain was documented on a pain assessment scale (0-10 points) both before and after the procedures. The average level of pain was 8 (5-10) prior to, and 2.5 (0-8) after inspiration. Depending on the type of intervention, inhalation was repeated, or was completed by local anesthesia.

Results and conclusion
Due to Livopan by minimizing pain, negative experience of pediatric patients could be excluded. It is advised to use it during interventions with mild or moderate intensity of pain, where transient analgesia is needed. Livopan was successfully used during our practice, however further studies are needed for broadening the knowledge and experience with this substance.

E 53
Robotic Surgery in Children
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E 54
Pediatric surgical laparoscopic training in Hungary
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Aim
Minimal invasive techniques are getting popular in pediatric surgery, self-confident laparoscopic experience is crucial in modern pediatric management.

This survey analyzes the laparoscopic training of trainees and pediatric surgeons specialized in 5 years in Hungary.

Results
34 questionnaires were sent by email, 17 trainees and 11 specialists answered (82%). All respondents are at least in the 3rd year of the training. The rate of endoscopic surgeries are between 5-15% in the training centers. Appendicitis, varicocele, intraabdominal testis, ovarian cyst and cholelithiasis are performed laparoscopically in almost 100% of the centers. Laparoscopic inguinal hernia, pyloromyotomy, pyeloplasty, splenectomy or hemi/nephrectomy are performed in 40-60% of the centers.
Less than half of the junior surgeons do minimal invasive surgery (MIS) in the first 2 years of the training. An average 20 appendectomies, 1-2 cholecystectomies and 3 ovarian or testis surgeries are done by trainee in the 3-6th year. However, there are young surgeons who has never performed a MIS. 50% of the trainees have the opportunity to use laparotrainer, however video watching (100%) is the most common preparation for a MIS. The subjective opinion of the trainees about having enough laparoscopic experience at specialty exam, is yes n=6 (21%), sufficient n=12 (43%) and no n=10 (36%). Training could be more effective with more equipment, more free courses on laparotrainer or on animal models and with teachers with patient and devoted attitude.

Conclusion
MIS is in everyday practice, however trainees have not enough experience to be self-confident in laparoscopy. MIS training could be better with regular use of laparotrainer and with more surgical practice.

E 55
Laparoscopic pyloromyotomy for hypertrophic pyloric stenosis – assessment after the first cases

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Introduction
Laparoscopic pyloromyotomy is nowadays the favored approach for the surgical treatment of hypertrophic pyloric stenosis (SHP). However, there is no strong evidence of the advantages of laparoscopic over the opened technique. Laparoscopy was associated with a shorter time to full feeds, shorter hospital stay and better cosmetic outcomes.

Objective
The purpose of this study is to assess the outcomes of laparoscopic pyloromyotomy for SHP with regards to our experience with open pyloromyotomy.

Material and methods
In the last 5 years we have treated 23 patients for SHP. In 8 cases laparoscopy was the preferred approach. Our assessment was carried on with regards to length of hospital stay, duration of surgery/ anesthesia, complications, postoperative pain and time to full feeding, vomiting and weight gain/ loss.

Results
There no intraoperative or postoperative complication. Conversion was necessary in one case due to technical reasons. Mean operative time was slightly longer for laparoscopic pyloromyotomy. Medium hospital stay was 9.5 days for laparoscopic vs. 10.1 for open. Full oral feeding was achieved after a medium of 3 days for laparoscopic vs. 3.6 days for open.

Conclusion
Our initial experience of 7 cases indicate that laparoscopic pyloromyotomy for SHP is a safe procedure with outcomes at least as good as classic pyloromyotomy.
E 56

Laparoscopic management of varicocele – single centre experience

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Introduction
Varicocele occurs in approximately 15% of adolescent boys. The aims of this study were to evaluate our experience with the laparoscopic Palomo procedure in children.

Materials and Methods
We conducted a retrospective case note review of all varicoceles managed laparoscopically over an 11 year period from 2003-2014. Age at presentation, symptoms, utilisation of ultrasound and rate of hydrocele development were the parameters reviewed. Data are presented as mean with range in parentheses.

Results
A total of 50 patients were operated during this time, data were available for 32 (64%) patients. Mean age was 13.4 (10.4-16.9) years. Twelve (38%) patients presented with pain and 3 (9%) patients with a small ipsilateral testicle. Mean duration of symptoms was 16.5 (0.5-72) months. Varicoceles were left sided in 30 (94%) and bilateral in 2 (6%). A preoperative ultrasound was obtained in 25 (78%) patients. Three patients (9%) were recurrences from previous varicocelectomy. All cases were completed laparoscopically. At a mean follow up of 18.3 (1.5-11.3) months there were no recurrences. Two patients had a small residual varicocele which improved with time. Hydroceles developed in a total of 7(21%), 4 of these resolved spontaneously and 3 (9%) underwent further operative management. There were no cases of testicular atrophy in our series.

Conclusion
Laparoscopic Palomo procedure is effective for management of adolescent varicocele. Hydrocele is a common post operative complication however most resolve spontaneously. Prolonged follow up is necessary for full assessment of outcome.

E 57

Transumbilical Cord Access in children

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Aim
Despite their risks and disadvantages, Veress needle insertion and the Hasson technique are the most used ways to create the pneumoperitoneum in laparoscopic surgery. Recently the direct Transumbilical Cord Access (TUCA) has been introduced, which is an easy and simple method to create pneumoperitoneum in children.
Method
We retrospectively analyzed the feasibility and safety of TUCA and compared with Veress needle insertion in laparoscopy in our unit and with international data.

Results
From 2010 to 2016 altogether 544 children underwent laparoscopy in our unit. 274 TUCA and 270 Veress needle insertion have been performed to create the pneumoperitoneum. The used method was chosen randomly regardless of age, gender or diagnosis. The youngest patient was 1month old and the oldests were 21 years (TUCA), and 19 years (Veress needle). No intraabdominal complications, organ, vessel injury or bleeding were observed in any group. Unsuccessful TUCA (shift to Veress needle) occurred in 6 patients (2,19%), unsuccessful Veress needle insertion (shift to Hasson technique) in 1 patient (0,37%). All the unsuccessful TUCA were done in adipose, adolescent patients. Leakage from the pneumoperitoneum were observed in TUCA in 3 (1,09%), Veress needle 2 (0,74%) cases. Postoperative omphalitis in 3-3 patients. With literature review 1871 cases were found using TUCA, where also no intraabdominal complications were observed.

Conclusion
The TUCA is a safe and promising method in paediatric surgery, providing invisible scar and preventing all the intrabdominal complications that can occur with Veress needle insertion.

E 58
Laparoscopically Assisted Hook Hernia Repair
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Introduction
The laparoscopic percutaneous techniques are gaining popularity in the treatment of inguinal hernia. ‘Laparoscopically Assisted Hook Hernia Repair (LAHHR)’ was introduced in April 2011 in our unit.

Objectives
Our aim is to present our preliminary results, to evaluate safety and feasibility, and to set a prospective study on surgical outcomes.

Patients & methods
We reviewed data retrospectively between April 2011 and December 2016 and prospectively examined the surgical outcomes using US a week, and 3 months after operation.

Results
We listed 201 patients, 204 operations, and 267 hernia closure. M/F ratio: 132/72. The average age 59 month (1 month -17 years), the average weight 19,41 (4-70) kg, 22,11% premature. The intraoperative diagnoses 36,45% right side, 22,17% left side, 38,42% bilateral hernia, and in 2,96% of the cases no open sac were found. Mean operating time was 23 minutes (6-80 min). Conversion to open needed in 9 cases. Patients
required on the average 1.27 (0-4) doses of NSAID. 153 children appeared on the first follow-up, 8 inguinal swellings, 8 hydroceles, 1 haematoma, 1 painful urination, and 2 testicular retraction were documented. On the 3 month appointment 82 patients showed up. 3 umbilical hernias, 1 omphalitis, 4 recurrences out of which 2 were operated with LAHHR, 3 testicular retraction, 7 hydroceles, and 2 elevated testes were seen. Testicular atrophy, calcification was not recorded.

Conclusion

LAHHR is a simple, feasible and safe method. Provides solid diagnosis, bilateral treatment, and leaves the testicular blood supply intact and the cosmetic result is superb.

E 59
Laparoscopic Hernia Repair – our preliminary experience

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Introduction

Several types of minimally invasive procedures of hernia repair have gained popularity in the past years in pediatric surgery. In our department the use of multiport purse string technique has been introduced. The aim of our study was to analyse the results of the patients, operated laparoscopically.

Materials/patients & methods

Patients, who underwent laparoscopic hernia repair were searched from MedSol® from November 2015 to May 2017. End points were: age, gender, side, comorbidity, complications.

Results

During the study period we performed laparoscopic hernia repair in 18 patients, included children from 1–17 years of age. Most of the patients (15/18) were ≤7 years. 10 boys and 8 girls were operated. 12 right-sided, 4 left-sided and 2 bilateral hernias were treated. 4 patients had umbilical hernia, 1 had varicocele (here the hernia was incidental intraoperative finding). Metachronous hernia was found in 1 case (5%). No intraoperative complication occurred, and during the follow up time (1-18 months) there was no recurrence.

Conclusion

According to our preliminary results, laparoscopic hernia repair is a safe method in children, with low morbidity and recurrence rate. It ensures the diagnosis of a metachronous hernia. In contrast to other minimally invasive hernia repair techniques, multiport purse string technique helps improving laparoscopic skills.
E 60
The role of laparoscopy in the management of iatrogenic colonic perforations in children
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Introduction
Colonic perforation is a rare event in children, and usually occurs after polypectomies or endoscopic procedures on IBD patients.

Objectives
In the past perforation was treated with laparotomy and direct suture or colostomy; nowadays however laparoscopic primary repair has gained acceptance as well. Our aim was to investigate the outcomes of laparoscopy in the management of pediatric iatrogenic colonic perforations in comparison to our experience.

Materials and methods
A literature search was carried out on PubMed database from January 1997 to May 2017 with the terms: laparoscopy, iatrogenic, colonic perforation, children. From a total of 141 hits our search ended up selecting 6 articles, 4 of them contained sufficient data for evaluation. There are altogether 6 well presented cases in the current literature and we operated two more patients due to the same reason.

Results
Of the 8 patients only 2 were boys. The indication for colonoscopy was IBD for 5 patients, rectal bleeding for 2 patients and colonic hemangioma ablation for 1 patients. The site of the perforation was the left colon in 4 patients, whereas in 2 patients it was the transverse colon and the terminal ileum. 6 perforations were managed with sutures, whereas perforation of the terminal ileum was cured with laparoscopic ileocecal resection and anastomosis. 2 patients had complication, but the outcome was good in all of the patients.

Conclusion
Laparoscopy is a safe and feasible way to treat iatrogenic colonic perforations in the pediatric population as well.

E 61
Laparoscopic appendectomy- how many ways do we perform it?
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Objective
Laparoscopic appendectomy is the most common minimally invasive procedure in pediatric surgery.
Aim
Our multicenter study analyzed the circumstances and techniques of laparoscopic appendectomies in Hungary.

Results
In 2016 n=854 appendectomies were performed in Hungary in 10 different hospitals, about 65 % of them laparoscopically. During day shift the mean rate of laparoscopies is more than 70% (20-100%), while during on-call period less than 60 % (0-100%) of the appendectomies are minimal invasive, which depend mainly on consultants or operating surgeons and on available equipment.

Three-port laparoscopy is performed in every centers (100%). Diathermy is used for dissecting of mesoappendix in all centers (n=10), but somewhere knots (30%) or Ultracision (20%) are applied, too. For controlling the appendiceal stump knots (70%), clips (50%) or endoloop (30%) around the appendix base are placed. In diffuse peritonitis saline or Betadin with saline are used for irrigation. Drain is never inserted in 50% of centers. In case of perforation n=13 different combinations of antibiotics are used for at least 5-7 days. Endobag is used in n=4 centers in case of perforation and in n=3 centers in case of thick appendix. Preoperative antibiotics are used in n=8 centers in case of advanced appendicitis. Ultrasound-guided drainage of postoperative abscess is possible in n=8 centers. Interval appendectomy is performed mainly 10 weeks (4-24 weeks) after the inflammation.

Conclusion
Laparoscopic appendectomy is the gold standard treatment of appendicitis in the whole country; however in few centers open way is still common due to surgeon's preference or lack of equipment. Standard protocol in operative and postoperative technique does not exist.

E 62
Minimal invasive surgical treatment options and complications of the distal dia-metaphyseal radial fractures in childhood. Retrospective multicenter study.
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Earlier distal radial fractures were treated by K-wiring in childhood. Nowadays we complete this treatment by ESIN techniques (elastic stable intramedullary nailing). The entry point of the nailing can be distal, or proximal, or we can use the „short ESIN“ technique.

The aim of our retrospective study was to prove that the ESIN methods can be used in operative treatments of the distal radial fractures.

We treated 252 children by minimal invasive methods because of distal radial fractures in the 3 regional institutions from 01.07.2012. to 31.12.2014. We compared metaphysis and dia-metaphyseal intermediar zone fractures due to the different surgical techniques. We measured the degree of dislocation during the postoperative 4-6 weeks and after the implant removing we studied the complications as well.
There were 121 metaphyseal fractures, 105 patients were treated by Kirschner wiring and 16 by nailing. There were 131 dia-metaphyseal intermedier zone fractures, 79 patient were treated by K-wiring and 52 by ESIN. There were no significal difference in important dislocations (>10°) in the cases of metaphyseal and intermedier zone fractures treated by K-wiring or nailing on the X-rays made after 4-6 weeks and after implant removal (p>0,05). We noticed implant displacement 6 times (patients treated by K-wires). Skin perforations caused by implant happened after 5 K-wirings and 8 nailings.

We concluded there is no significant difference between K-wiring and ESIN by cases of redislocation. The benefit of ESIN in the most cases is that plaster cast is not needed and early physiotherapy is applicable.

E 63
Ultrasound-assisted diagnosis of distal pediatric forearm fractures
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Introduction
The aim of our prospective study was to evaluate the effectivity of sonographic diagnosis of pediatric wrist fractures and analyzing the results of two pediatric musculoskeletal centers.

Methods
Between 2011 january and 2015 december 467 children aged 0-15 with closed wrist injuries and open growth plates were sonographically and radiologically evaluated by an orthopaedic surgeon or a resident in trainee. Sonography was performed immediately after physical examination with linear probes of 7-14 Mhz frequency. Results were compared to conventional two plane wrist x-rays.

Results
We found 97 sensitivity and 96 specificity of the sonographic evaluation. Fractures with dislocations and more serious clinical consequences were never missed.

Conclusion
Musculoskeletal ultrasound is a very effective tool in daily routine for diagnosing or excluding pediatric wrist fractures.
E 64
Intraoperative sonography can reduce the risk of extensor pollicis longus tendon injury during flexible intramedullary nailing of the radius in children

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Introduction
The aim of our presentation to introduce an intraoperative ultrasonographic technique which can reduce the risk of extensor pollicis longus tendon (EPLT) injury using the dorsal entry radial elastic nailing technique.

Methods
Position of Lister’s tubercle, EPLT and extraosseal end of the elastic nail were examined first in six adult cadavers. Radial slope of Lister’s eminence was determined as a safe and easily identifiable entry point for opening the medullary canal. Extraosseal ends of the nails were bended in a slight radial direction and cut immediately beneath the skin in a maximally palmar-flexed wrist position. Cadaveric dissections all correlated with ultrasonographic findings. We have not seen tendon damage, obstruction or friction by the implant’s end.

After our initial good cadaveric experiments we began using intraoperative sonography for monitoring elastic nail insertion in paediatric radial fractures.

Between January of 2015 and September of 2016 67 paediatric closed diaphyseal radial fractures were operated by dorsal approach ESIN under intraoperative sonographic checking.

Procedures were executed by two orthopaedic surgeons experienced in ESIN technique with basic musculoskeletal ultrasonographic qualifications.

Results
We have not found EPLT injury postoperatively. All patients were followed for at least 10 months after operations. Nails were removed from all children without further complications.

Conclusions
Intraoperative sonography may help determining the optimal insertion point. According to our results the risk of EPLT injury can be reduced using the dorsal entry approach.

Although the procedure is relatively easy, the authors take note that surgical and sonoanatomic knowledge, basic sonographic skills and experience in the ESIN technique are equally necessary for its successful application.

E 65
Our experiences of pulseless supracondylar humeral fractures requiring surgical exploration

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Background
No consensus about the indication and timing for open surgical reduction at the “pulseless otherwise well-perfused hand” cases.

The purpose of this retrospective study was to describe our strategy and presence experiences to children with supracondylar humerus fractures associated with brachial artery injuries.

Patients and methods
2007 Jan. – 2017 Apr. we selected the documentation of those children who were treated due to supracondylar fractures associated with artery injury and needed open exploration.

Clinical records were reviewed to determine vascular and neurological examination findings, Gartland classification, mechanism of injury, timing of surgery, and postoperative complications. 22 children [mean age 6 (range 3 – 14 years)] that included 16 male and 6 female patients were evaluated.

Results
All patients had extension type III injuries. Nineteen of 22 had posterolateral displacement of whom 11 had concomitant median nerve injury. In 10 cases ischemic symptoms was recorded by the first examination. One of them had a compartment syndrome at the postoperative period. Decompression and release led to full restoration of a palpable radial pulse, in 14 patients. Other eight underwent vascular surgery (two primary repairs, four saphenous vein grafts, one thrombectomy). Late complications did not arise. The recovery occurred within 1–3 months in patients without nerve involvement and later, within 4–7 months in patients with median nerve palsy.

Discussion
The median nerve is most commonly injured, which occurred in 57% of fractures with posterolateral displacement in our series. Results show that if circulation disorder symptoms are experienced, or if radial pulse does not return during treatment, it is recommended to surgically explore as soon as possible. Careful inpatient monitoring postoperatively is mandatory to identify late-developing vascular compromise.
The aim of the study
To improve the functional outcomes of treatment of supracondylar fractures in children by closed reduction and percutaneous fixing with K-wires.

Materials and methods
For the period from 2015 to 2017, in the orthopedic and traumatology department of the regional children’s hospital in Mukachevo, 145 children with supracondylar humerus fractures were treated, including 78 boys and 71 girls.

The study group included only those children in whom the treatment was carried out operatively (closed reduction and percutaneous fixation with K-wires).

Results and discussion
In all cases, there was a rapid positive dynamics of the recovery of neurological and hemodynamic disorders; Rapid elimination of inflammatory reactions; Reduction in the length of stay in department

Conclusions
Analysis of treatment of children with supracondylar humerus fractures by the closed reduction and percutaneous K-wires fixation showed high efficiency. Carrying out of percutaneous fixation of the distal end of the humerus only from the lateral side sharply reduces (if not excludes) the possibility of injuries to the ulnar nerve during surgery; prevents the development of secondary displacement of the fracture.

E 67
„Floating elbow” injury in children, a 13-year retrospective study from our department.
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Introduction
The term “floating elbow” was first introduced by Statinski and Micheli. It represents a childhood injury involving simultaneous supracondylar fracture of the humerus and both forearm bones, on the ipsilateral extremity.

Objectives
During the examined period, 18 “floating elbow” cases were treated. In further 7 cases we saw the supracondylar fracture of the humerus with the isolated radius fracture on the same limb. Given the severity of the injury, the similarity accident mechanism and the similarity of the treatment we did not exclude these cases (Malheiro et al.).

Patients & methods
The boy-girl ratio of the 25 patients was 3: 2, the median age was 7 years (mean 7.4 years, ranging from 4 to 13). The left side was predominantly affected (56%). The commonest injury mechanism was fall from height (68). The distribution of supracondylar fracture types is as follows: Type I: 4% (1), Type II: 40% (10), Type III: 16% (4) IV Type: 40% (10). In 6 cases open reduction were performed (24%). 20 supracondylar fractures were fixed
using Kirschner wires (80%). The radius fractures were treated in 15 cases using closed reduction (60%), in 9 cases (36%) using wire fixation, and in 1 case with intramedullary nailing (4%). The following complications were observed; in four cases we found a deformed consolidation (16%), in 2 cases nerve injuries (8%).

**Conclusion**

This is an uncommon injury that in most cases results from high-energy trauma. Surgical treatment for both fractures is recommended by most authors. The severity of the injury depends on the supracondylar fracture.

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**E 68**

**Severe opened crural fracture – team work in pediatric traumatology (case report)**

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Our aim is to show why the team work is necessary in the management of a severe pediatric trauma case. The National Ambulance Service called our emergency departement because they left the scene and they rush to our hospital with a kid who was hit by a car. At the emergency departement our emergency trauma team (anaestheologist, pediatric surgeon, pediatrician, radiologist) waited for that patient. The boy arrived, we started the ABC/EPALS protocol, with a FAST ultrasound and blood tests. He was stable, we found an opened (AO IIIb), severe displaced crural fracture. We moved the patient to the operating theatre and we performed an emergency surgery. With the help of traumatologist, we replaced the fracture, we set an external fixator system because of the severe skin injury. On the 7th postoperative day we noticed skin necrosis, due to this we performed a necrectomy. 9 day after the trauma we had to do a skin transplantation (Krause's flap), with the help of plastic surgeon. The wound was perfect, we started the mobilisation with physicotherapeutist. After 3 months the wound consolidated, and we could remove the external fixator. We used a brace for 3 weeks. Now our patient has a perfect function, perfect bone healing, but later maybe we will do an autologue adipose tissue transplantation, for a better cosmetic result.

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**E 69**

**Transverse colon volvulus is not always due to chronic constipation - beware of chronic intestinal pseudoobstruction**

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**Introduction**

Transverse colon volvulus (TCV) is rare in children (<30 cases in the literature). It is usually diagnosed...
intraoperatively, and requires surgical derotation. Most patients suffer from chronic constipation and/or neurodisability. Chronic intestinal pseudoobstruction (CIPO) is a rare dysmotility disorder causing repetitive episodes of bowel obstruction without mechanical cause.

**Objectives**

We describe a TCV in a 6-year-old girl who was subsequently diagnosed with CIPO caused by T-cell rich leiomyositis.

**Case report**

A fit and well 6-year-old girl presented to the Emergency Department of a tertiary paediatric unit with significant abdominal distension and pain. Abdominal x-ray suggested an acute obstruction. At laparotomy, a TCV was found without underlying cause. An ileostomy was formed. The girl subsequently required multiple returns to theatre because of recurrent stoma obstruction and/or prolaps, again without mechanical reason. The girl had struggled with intermittent distension and constipation since birth. Investigations were all negative, including rectal biopsies, Lactose/ Sucrose intolerance test, upper gastrointestinal endoscopy, coeliac screen, anorectal manometry.

Histology revealed T-cell rich leiomyositis causing chronic intestinal pseudoobstruction (CIPO).

CIPO is caused by degeneration of smooth muscle cells in the muscularis propria and may be congenital or acquired, usually following severe viral infections or autoimmune disorders. Only 7 such cases due to T-cell rich leiomyositis have been described in children; all these had previous viral infections or autoimmune disorders.

**Conclusion**

We aim to raise awareness of this complex disorder amongst paediatric surgeons. TCV warrants thorough investigations into the underlying cause, otherwise rare, life-threatening conditions may be missed.

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**E 70**

**To lengthen or not to lengthen? Surgical management of short bowel syndrome – the Manchester experience**

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**Introduction**

Short bowel syndrome (SBS) is a multi-system disorder that causes malabsorption of nutrients as a result of inadequate intestinal length. Surgical management remains controversial and challenging. Here, we discuss classification, indications and timing for bowel lengthening procedures.

**Objective**

We aim to provide a guide for choosing the most appropriate reconstructive procedure tailored to patient needs based on a 30 year experience in the management of SBS.
**Methods**
Literature review and expert opinion.

**Results**
Surgical principles in SBS are to increase the absorptive surface, improve peristalsis, and delay transit time. We class patients with SBS into four groups according to remaining bowel length to guide choice of surgery.

Additional important factors:
- Presence of the colon
- Quality of the mesentery
- Dilatation of the remaining bowel
- Patient age

Surgical procedures (may be performed isolated, simultaneous, or sequentially):
- Longitudinal or spiral intestinal lengthening and tailoring
- Serial transverse enteroplasty
- Reverse small bowel/colonic interposition

Our multi-disciplinary team facilitates controlled-tissue expansion, combined with early intestinal and if possible oral stimulation. We consider transplant only as the last resort for patients failing to adapt, with irreversible liver failure or loss of all intravenous access.

**Conclusion**
Correct assessment of bowel length is essential to class patients with SBS appropriately and subsequently guide choice of surgical procedure. A multidisciplinary rehabilitative approach to achieve enteral autonomy through a combination of early intestinal stimulation, low-fat parenteral nutrition and choice of optimal surgical technique maximises patient outcomes.

**E 71**
**First STEPs — is it the right thing to do?**

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**Introduction**
Surgical management of short bowel syndrome (SBS) in children is challenging. Recently, more authors are advocating for neonatal serial transverse enteroplasty procedure (STEP) in SBS quoting the term “Primary STEP” or “First STEP”.

**Objective**
We aim to investigate indications and outcomes in the literature of all STEPs performed in the first 28 days of life.
Methods
OVID MEDLINE/ EMBASE search; included: all lengthening procedures for SBS in neonates since 2003 (introduction of STEP).

Results
Eight papers matched our search criteria, accurate data from six papers only. Total of 22 cases with STEP procedure at a median age of 2 days. Primary diagnosis: Jejunal atresia (63.6%), vanishing gastroschisis (22.7%), gastroschisis with atresia (9.1%), midgut volvulus (4.6%). In nearly a third of cases pre-STEP residual small bowel length was >50cm. Five patients achieved enteral autonomy after the “First STEP”, 60% of them had pre STEP small bowel length >90cm. Following a median follow up of 20 months 60% required a second STEP, 40% are still PN dependant, 3 more cases achieved enteral autonomy following a second STEP, 2 infants died and one required small bowel transplantation. Immediate post-operative complications only occurred in three cases. However, bowel redilatation was inevitable in almost all true SBS cases.

Conclusion
Redilatation following “First STEP” is very common and necessitates further surgical intervention. The scarce current evidence does not support the use of STEP in the neonatal period. STEP can be a method of mucosal-sparing tailoring procedure, however its success in primary bowel lengthening in the neonatal period is questionable.

E 72
Early lengthening procedures – Are we doing what we should be doing?
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Objective
To compare the indications for early bowel lengthening in short bowel syndrome (SBS) reported in the literature to our centre experience.

Methods
OVID MEDLINE/ EMBASE search for all bowel lengthening cases in children in the last 35 years. Retrospective review of all cases undergoing bowel lengthening at our center. Early lengthening was defined as any bowel lengthening procedure performed before 6 months of age.

Results
27 papers reported over 65 early bowel lengthening procedures. Median age at surgery: 45 days [IQR 12-101]. The most frequent diagnosis: small bowel atresia and gastroschisis. Methods of choice: Longitudinal intestinal lengthening and tailoring (LILT), serial transverse enteroplasty procedure (STEP). Main initial indication: Failure of enteral nutrition. Over the last 10 years we performed bowel lengthening on 35 cases of SBS. In the early lengthening group (n=9), gastroschisis was the dominant diagnosis (65%), median age at surgery
Conclusion

More recently, clear recognition of uncertainty on timing and indications for early lengthening in SBS in children is lacking in the literature. We believe that early lengthening for tailoring and tapering purpose in full term neonates with SBS may have a role. A multi-center study is required to define the ambiguity in this field.

E 73

Is bilateral hernioplasty needed in symptomatic unilateral inguinal hernia in children? – A long-term, retrospective study

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Introduction & Objective

After surgical exploration of unilateral inguinal hernia, the incidence of development of contralateral inguinal hernia is 6-10%. Aim of present study was to investigate long-term incidence of development of contralateral hernia at the authors’ institute.

Patients & Methods

The authors retrospectively reviewed the data of children under the age of 3 years, who underwent surgery because of unilateral inguinal hernia in 1991 at the authors’ institute. The medical histories of 86 boys and 37 girls, laterality of the inguinal hernia, the maturity of the operated children based on birth age and body weight were reviewed using a questionnaire and were statistically analyzed.

Results

Among the 123 children, 89 were operated on because of right-sided, while 34 of left-sided inguinal hernia. In 68 cases (55%), the authors got an answer to the question of whether a contralateral inguinal hernia or a relapse developed following the primary surgery. A consecutive surgery was needed in 26.5% of the children because of contralateral inguinal hernia on the right side in 28.6%, on the left side 25.5% respectively. Out of the 13/17 prematurely born children in 3 out of 55/106 maturely born in 15 children developed contralateral inguinal hernia later.

Summary

More than a quartile of the responders developed contralateral inguinal surgery requiring surgical intervention, which ratio is higher than what could be expected from literature. Despite of that, in our praxis we do not operate on children with symptomless inguinal hernia, because in the majority of them symptomatic inguinal hernia does not develop.
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