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Impact of the COVID-19 Pandemic on Pediatric Surgery Practice

This is a 10 minute survey designed to assess how the practice of pediatric surgery has changed during the COVID-19 pandemic in hospitals around the world. If you work at an institution that performs surgery on children, please answer the following questions regarding changes in practice for pediatric surgical patients during the 2020 COVID-19 pandemic.

You will be asked questions about the specific practices in place at your institution and changes to your perioperative management of pediatric surgical patients.

Your response will help to better understand how surgeons are adapting to the COVID-19 pandemic in different regions of the world and which procedures are being delayed in different settings.

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In what country do you practice?

- AF:Afghanistan
- AX:Åland Islands
- AL:Albania
- DZ:Algeria
- AS:American Samoa
- AD:Andorra
- AO:Angola
- AI:Anguilla
- AQ:Antarctica
- AG:Antigua and Barbuda
- AR:Argentina
- AM:Armenia
- AW:Aruba
- AU:Australia
- AT:Austria
- AZ:Azerbaijan
- BS:Bahamas
- BH:Bahrain
- BD:Bangladesh
- BB:Barbados
- BY:Belarus
- BE:Belgium
- BZ:Belize
- BJ:Benin
- BM:Bermuda
- BT:Bhutan
- BO:Bolivia
- BA:Bosnia and Herzegovina
- BW:Botswana
- BV:Bouvet Island
- BR:Brazil
- IO:British Indian Ocean Territory
- BN:Brunei Darussalam
- BG:Bulgaria
- BF:Burkina Faso
- BI:Burundi
- KH:Cambodia
- CM:Cameroon
- CA:Canada
- CV:Cape Verde
- KY:Cayman Islands
- CF:Central African Republic
- TD:Chad
- CL:Chile
- CN:China
- CX:Christmas Island
- CC:Cocos (Keeling) Islands
- CO:Colombia
- KM:Comoros
- CG:Congo
- CD:Congo, The Democratic Republic of The
- CK:Cook Islands
- CR:Costa Rica
- CI:Cote D'ivoire
- HR:Croatia
- CU:Cuba
- CY:Cyprus
- CZ:Czechia
- DK:Denmark
- DJ:Djibouti
- DM:Dominica
- DO:Dominican Republic
- EC:Ecuador
- EG:Egypt
- SV:El Salvador
- GQ:Equatorial Guinea
- ER:Eritrea
- EE:Estonia
- ET:Ethiopia

07/08/2020 2:16pm

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- FK:Falkland Islands (Malvinas)
- FO:Faroe Islands
- FJ:Fiji
- FI:Finland
- FR:France
- GF:French Guiana
- PF:French Polynesia
- TF:French Southern Territories
- GA:Gabon
- GM:Gambia
- GE:Georgia
- DE:Germany
- GH:Ghana
- GI:Gibraltar
- GR:Greece
- GL:Greenland
- GD:Grenada
- GP:Guadeloupe
- GU:Guam
- GT:Guatemala
- GG:Guernsey
- GN:Guinea
- GW:Guinea-bissau
- GY:Guyana
- HT:Haiti
- HM:Heard Island and Mcdonald Islands
- VA:Holy See (Vatican City State)
- HN:Honduras
- HK:Hong Kong
- HU:Hungary
- IS:Iceland
- IN:India
- ID:Indonesia
- IR:Iran, Islamic Republic of
- IQ:Iraq
- IE:Ireland
- IM:Isle of Man
- IL:Israel
- IT:Italy
- JM:Jamaica
- JP:Japan
- JE:Jersey
- JO:Jordan
- KZ:Kazakhstan
- KE:Kenya
- KI:Kiribati
- KP:Korea, Democratic People's Republic of
- KR:Korea, Republic of
- KW:Kuwait
- KG:Kyrgyzstan
- LA:Lao People's Democratic Republic
- LV:Latvia
- LB:Lebanon
- LS:Lesotho
- LR:Liberia
- LY:Libyan Arab Jamahiriya
- LI:Liechtenstein
- LT:Lithuania
- LU:Luxembourg
- MO:Macao
- MK:Macedonia, The Former Yugoslav Republic of
- MG:Madagascar
- MW:Malawi
- MY:Malaysia
- MV:Maldives
- ML:Mali
- MT:Malta
- MH:Marshall Islands
- MQ:Martinique
- MR:Mauritania
- MU:Mauritius

- YT:Mayotte
- MX:Mexico
- FM:Micronesia, Federated States of
- MD:Moldova, Republic of
- MC:Monaco
- MN:Mongolia
- ME:Montenegro
- MS:Montserrat
- MA:Morocco
- MZ:Mozambique
- MM:Myanmar
- NA:Namibia
- NR:Nauru
- NP:Nepal
- NL:Netherlands
- AN:Netherlands Antilles
- NC:New Caledonia
- NZ:New Zealand
- NI:Nicaragua
- NE:Niger
- NG:Nigeria
- NU:Niue
- NF:Norfolk Island
- MP:Northern Mariana Islands
- NO:Norway
- OM:Oman
- PK:Pakistan
- PW:Palau
- PS:Palestinian Territory, Occupied
- PA:Panama
- PG:Papua New Guinea
- PY:Paraguay
- PE:Peru
- PH:Philippines
- PN:Pitcairn
- PL:Poland
- PT:Portugal
- PR:Puerto Rico
- QA:Qatar
- RE:Reunion
- RO:Romania
- RU:Russian Federation
- RW:Rwanda
- SH:Saint Helena
- KN:Saint Kitts and Nevis
- LC:Saint Lucia
- PM:Saint Pierre and Miquelon
- VC:Saint Vincent and The Grenadines
- WS:Samoa
- SM:San Marino
- ST:Sao Tome and Principe
- SA:Saudi Arabia
- SN:Senegal
- RS:Serbia
- SC:Seychelles
- SL:Sierra Leone
- SG:Singapore
- SK:Slovakia
- SI:Slovenia
- SB:Solomon Islands
- SO:Somalia
- ZA:South Africa
- GS:South Georgia and The South Sandwich Islands
- ES:Spain
- LK:Sri Lanka
- SD:Sudan
- SR:Suriname
- SJ:Svalbard and Jan Mayen
- SZ:Swaziland
- SE:Sweden
- CH:Switzerland

- SY:Syrian Arab Republic
- TW:Taiwan, Province of China
- TJ:Tajikistan
- TZ:Tanzania, United Republic of
- TH:Thailand
- TL:Timor-leste
- TG:Togo
- TK:Tokelau
- TO:Tonga
- TT:Trinidad and Tobago
- TN:Tunisia
- TR:Turkey
- TM:Turkmenistan
- TC:Turks and Caicos Islands
- TV:Tuvvalu
- UG:Uganda
- UA:Ukraine
- AE:United Arab Emirates
- GB:United Kingdom
- US:United States
- UM:United States Minor Outlying Islands
- UY:Uruguay
- UZ:Uzbekistan
- VU:Vanuatu
- VE:Venezuela
- VN:Viet Nam
- VG:Virgin Islands, British
- VI:Virgin Islands, U.S.
- WF:Wallis and Futuna
- EH:Western Sahara
- YE:Yemen
- ZM:Zambia
- ZW:Zimbabwe

What is the name of the primary hospital/institution in which you work? (This data will be used to determine the number of unique institutions surveyed. Only aggregated data will be reported. Individual institution data will never be shared)

What best describes your current role at [institution]?

- Student
- Trainee/Resident/Registrar
- Nurse
- Hospital Administrator
- Pediatric Surgeon (General or subspecialist)
- Anesthesiologist
- Other

Please specify your surgical speciality.

- General and thoracic
- Urologic
- Cardiac
- Neurosurgical
- Ophthalmologic
- Oromaxillofacial
- Orthopedic
- Otolaryngologic
- Plastic

Please specify your role.

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Based on the following definitions, which type of hospital best defines [institution]

First-level hospital: (Few specialties-mainly internal medicine, obstetrics and gynecology, pediatrics, and general surgery. Often only one general practice physician or a non-physician clinician. 50-250 beds)

Second/Third Level Hospital: (More differentiated by function, with as many as 5 to 10 clinical specialties. 200-800 beds)

National Children's Center: (Highly specialized staff and technical equipment-for example, cardiology, intensive care unit, and specialized imaging units. Clinical services highly differentiated by function. 300-1,500 beds)

- First-level/district/general hospital hospital
- Second/Third/secondary/tertiary hospital
- National Children's Center

Is [institution] private (privately funded), public (government funded) or faith based?

- Public
- Private
- Both public and private funding
- faith based

Has there been social distancing or quarantine practices in the region surrounding [institution]?

- Yes
- No
- I do not know

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Please answer the following questions related to changes in pediatric surgical practice at [institution] during the COVID-19 pandemic

Have COVID positive patients been cared for at [institution]? Yes
 No
 I do not know

Have any children (< 15 years) with COVID-19 been cared for at [institution]? Yes
 No
 I do not know

Have any COVID-19 positive patients undergone surgery at [institution]? Yes
 No
 I do not know

Has [institution] issued guidance about delaying or cancelling elective pediatric procedures during the COVID-19 pandemic? Yes
 No
 I do not know

Please describe the guidance offered at [institution] A list of procedures to be delayed
 Operation must be cleared by chief of surgery
 Operations must be cleared by hospital administrator
 Other

Please specify any other ways that [institution] has offered you guidance on determining which procedures to delay or cancel during the COVID-19 pandemic. _____

Does [institution] currently have COVID-19 testing capability? Yes
 No
 I do not know

In the past week, how long does it take to get a COVID-19 test result back? less than 4 hours
 between 4 and 24 hours
 between 24 hours and 5 days
 greater than 5 days

Does [institution] require patients to undergo COVID-19 testing prior to undergoing a surgical procedure? Yes
 No
 I do not know

For how long is a pre op COVID test valid? (The time required before another test would need to be performed prior to operating) less than 24 hours
 24-48 hours
 greater than 48 hours
 repeat testing is never done

Please describe any other context specific COVID responses occurring at [institution] _____

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Please answer the following questions pertaining to your own pediatric surgical practice during the COVID-19 pandemic.

What types of procedures do you typically perform for children (click all that apply):

- General and thoracic
- Urologic
- Cardiac
- Neurosurgical
- Ophthalmologic
- Oromaxillofacial
- Orthopedic
- Otolaryngologic
- Plastic

What proportion of children's surgical cases in your practice are elective versus emergent?

- all surgical cases are emergent
- most surgical cases are emergent
- about equal mix of emergent vs elective surgeries
- most surgical cases are elective
- all surgical cases are elective

Have you modified your preoperative assessment of pediatric patients?

- Yes
- No

In which ways have you modified your preoperative assessment of pediatric surgical patients?

- More imaging use
- earlier attending involvement
- negative pressure room
- more watchful waiting
- non operative treatment of acute appendicitis
- other

Are you taking special precautions for COVID+ patients undergoing surgical procedures?

- Yes
- No

Please select which precautions

- Use of negative pressure operating room
- use of viral filter during aerosol-generating procedures
- use of N95, CAPR or PAPR in the operating room
- use of negative pressure room postop
- limiting staff in the room
- excluding trainees from care of patient
- special post anesthesia precaution time (waiting a specified period of time post intubation/extubation or use of specific equipment during intubation/extubation)
- other

Please specify any other precautions you have taken

You indicated that [institution] has implemented a special post anesthesia precaution time (waiting a specified period of time post intubation/extubation or use of specific equipment during intubation/extubation)

How many minutes are you waiting?

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Do you perform laparoscopic surgery? If so, have you modified your use of laparoscopy for use in surgical patients with potential COVID-19 infection?

- I do not perform laparoscopic surgery.
 yes, I have modified my use of laparoscopy.
 no, I have not modified my use of laparoscopy.

How have you modified your use of laparoscopy for use in surgical patients with potential COVID-19 infection?

- Decreased use of laparoscopy
 Use of laparoscopic filter
 Increased performance of open procedures
 other

Please specify other ways in which you have modified your use of laparoscopy

Do you believe that the number of elective procedures should be limited during the COVID-19 pandemic?

- Yes
 No

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The following procedures are adapted from the Optimal Resources for Children's Surgery and the American College of Surgeons (ACS) COVID-19 Guidelines for Triage of Pediatric Patients and endorsed by the American Pediatric Surgical Association (APSA).

Check the first column if you believe performance of this procedure should be limited during the COVID-19 pandemic (leave blank if you believe this procedure should still be performed). Check the second column if your institution is currently limited whether this procedure can be performed

Check the third column if this procedure is never performed at your hospital

	I believe performance of this procedure should be limited during the COVID-19 pandemic.	[institution] has limited performance of this procedure during the COVID-19 pandemic.	This procedure is never performed at [institution].
Vascular access device removal (not infected)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vascular access device insertion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cancer surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asymptomatic pediatric inguinal hernia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Symptomatic pediatric inguinal hernia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asymptomatic infant inguinal hernia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Symptomatic infant inguinal hernia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orchiopexy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anorectal malformation reconstruction following diversion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hirschsprung disease reconstruction following diversion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inflammatory bowel disease reconstruction following diversion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resection or diversion for acute exacerbation of inflammatory bowel disease not responsive to medical management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enterostomy closure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Breast lesion excision (i.e. fibroadenoma)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Branchial cleft cyst/sinus excision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thyroglossal duct cyst excision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Fundoplication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bariatric surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Splenectomy for hematologic disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cholecystectomy for biliary colic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cholecystectomy for symptomatic cholelithiasis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repair of asymptomatic choledochal cyst	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portoenterostomy for biliary atresia with jaundice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Abscess incision and drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chest wall reconstruction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gastrostomy if required for discharge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surgical closure of a PDA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surgical correction of a simple coarctation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surgical correction of congenital heart disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cardiac catheterization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VP shunt placement or revision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repair of spinal dysraphism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Neuroendoscopy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surgical treatment of cerebral vascular malformations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resection of cerebral tumors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repair of cranial malformations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
epilepsy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Circumcision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paraphimosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orchiopexy for undescended testicles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preputialplasy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cystostomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vesicostomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Imperforate Hymen repair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hypospadias Repair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Epispadias Repair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urethral Valve Resection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Complex Repair of Bladder Extrophy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nephrostomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Genitoplasty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surgical Management of Urolithiasis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mitroffanoff placement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kidney Transplant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cataract Surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Glaucoma Surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Squint Surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ptosis Surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Retinopathy of Prematurity Procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oculoplastics Procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dental Extraction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repair of cleft lip and/or palate repair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facial reconstruction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distraction osteogenesis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Osteosynthesis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surgical treatment of osteomyelitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Club foot repair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pinning of Slipped Capital Femoral Epiphysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Syndactyly release	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spina bifida procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tendon Transfers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correction of brachial plexus injuries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resection of bony tumors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excision of a benign neck mass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tonsillectomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tympanoplasty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ossiculoplasty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tympanomastoidectomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Laryngotracheal reconstruction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resection of head and neck masses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleft lip and/or palate repair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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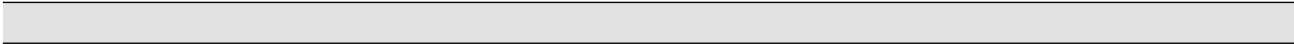
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Repair of cranial malformations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local or free tissue flaps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repair of congenital hand anomalies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reconstruction after tumor excision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleft lip and palate repair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repair of cranial malformations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GI endoscopy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airway endoscopy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please list any additional procedures for which you believe formal guidance is needed.

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What is your greatest concern about COVID and its impact on children's surgery and what could be done to mitigate this concern?
