Pedi Appys

Preop

Diagnosis:

Prudent mindset is that all kids with abdominal pain about whom you are called are an appy until proven otherwise.

Surgeon's exam is best. Surgery residents count! Use the jump test.

US is only reliable when it does see the appy. A non-vis US is NOT a negative US.

Try to avoid CT (radiation). Occasionally we need a CT. A non-vis CT IS a negative CT.

We do NOT need oral contrast for "rule out pedi appy" CTs. Radiologists not familiar with kids sometimes insist on PO contrast for "paucity of fat". If so, just refer them to Pedi Surg attending.

All kids need CBC with diff. The diff is key in kids. Many appys have a WBC of 9 but the left shift gives it away..

WBC over 19 is usually-but not always- perforated

COVID test-as soon as they call you aske them for COVID test.

DDX: Gastroenteritis (all ages), Intussusception (3mo-3yrs), Left sided pneumonia (4 years), Mesenteric adenitis(4-8 years), UTI (younger girls), GYN (older girls), biliary colic (chubbier kids). Many will have gotten an enema for constipation.

Preparation:

Ceftriaxone 50 mg/kg. and Flagyl 30 mg/kg. in ED or on ward if there will be a wait.

Zosyn is choice #2. 100 mg/kg.

If quick hop from SCH ED to preop we'll pull abx out of the OR Pyxis. Ordering them would slow us down so don't.

D5 NS with 20 Meq KCL/l at 2 x maint (double the 4/2/1 volume) preop while waiting

Void in preop to avoid Foley.

Pregnancy test for postmenarchal girls

If kid is waiting preop overnight on ward use the "postop perfd" order set (next page) minus the Toradol.

OR

Short Veress and ports. Normal adult CO_2 pressures and flows.

Insert Veress shallow and cephalad, away from the ileac bifurcation. Remember that pedi bladder can reach the umbi.

One to three 5mm ports. Sometimes a 12 mm port.

Instruments vary depending on ports. 5mm Just Right Stapler and Evil Bag.

0 Vicryl for umbilical fascia . 4-0 Monocryl for skin. Skin Glue.

Postop Non-Perf'd

Home from PACU.

Dr. Sullivan has a dot phrase you can steal called ".ker" for all of this.

Tylenol and Motrin. Narcotics are so 1990's.

Keep dry for 48 hours, then shower/bath getting incision wet daily. Glue falls off in 1-2 weeks

VOT – Use the "Letters" section Visit Verification. Dot phrase for VOT is also under .ker.

No restrictions. State what was done, the date, and "Back to school, sports, travel PE letting pain be their guide"

And "Parents may need time off to care for ___ during their recovery".

No dates – kids vary and once you pick a date it's just wrong..

TAV in 7-10 days. Sullivan books it. You're welcome 😊

Postop Perf'd:

Neuro: Tylenol 15 mg/kg IV every 6 hours RTC.

Toradol .5 mg/kg IV every 6 hours RTC

Morphine 0.05 mg/kg IV q2 hours PRN.

Do not move to PO pain meds in house b/c IV meds go in at night RTC and b/c finicky kids will torture you.

Resp: Nothing

CV: Follow pulse – should drop to normal for age over 1-2 days as rehydrate and fevers cease.

GI: NPO first night if a bad perf. Clears for a Perf Lite. We adjust this based on OR findings.

Parents, nurses, kids will wheedle for POs but prudent to wait until the abdomen softens. They just throw up.

No Zofran please. Early SBOs do occur. If they are throwing up it's safer to stay NPO and figure it out.

Start clears when abdomen softens – usually day 1-2

Once clears are tolerated, go to regular diet. The "full liquid" or "soft" diets are gross.

Expect horrid liquid diarrhea POD #1-6. It is from sigmoid irritation. Even old kids need diapers. It is not C. Diff so please do NOT send a C.Diff test. If you do, the child is confined to his room as soon as the order is placed, cannot go to the playroom, doesn't walk, gets an abscess. Disaster.

GU: No DTV order please. Many won't pee for 12 hours or more. They all eventually void.

We recommend patience, but if folks are worried a bladder scan is uncomfortable but OK.

Urine volumes desired (multiply by the Kg and hours postop)

2-10 year olds: 1-1.5 cc/k/hr

>10 years ½ cc/k/hr

No Foleys or I&O caths please unless they are *way* over the expected volume (i.e. retaining). Rare in kids.

Dysuria is common and is from bladder irritation. No UA needed – they're on broad coverage so it is not a UTI.

Heme: No labs. At all. After 5 days if there are issues we'll send a CBC to w/u possible abscess.

ID: Per Regional ID: Ceftriaxone 50mg/kg/dose q 24 and Flagyl 30 mg/kg/dose q 24. Zosyn 100 mg/kg is choice #2

Do not move to PO abx while in house. Finicky kids will torture you.

Expect temps to 102 for POD #1-3.

We know the source, and they are on broad spectrum coverage, so no UAs, CXRs, CBCs, or blood cultures are needed.

TLD: They leave the OR with a good IV. If all IV falls out you may be called and asked if one must be replaced.

If the child still needs IV abx (i.e. they are not ready for home) the RNs do have to replace the IV.

If the child is on the launching pad, you can move them to PO Augmentin for that last night and avoid another IV.

SOC: The parents are told postop that they need to get their child up walking in the AM POD #1 and every 3 hours thereafter. Few will do it. Be encouraging. The RNs will help. This is a hurdle, but it is why our abscess rate is so low.

IV: Start with D5 NS with 20 Meq KCL/l at 1 x maint. Calculate 4/2/1 .

Order the Ins and Outs as q 4 hours, not q shift, and eyeball the u.o. overnight the first night.

Drop the IV rate every few hours to yield the urine output desired (see GU above). Usually at 1xmaint on POD #1.

You rarely need NS boluses, but if you do 20 cc/kg NS x 1 should do it. You never need lytes.

When they are tolerating PO's the RNs prefer "TKO" over "Saline Lock" because the IVs last longer on TKO. TKO=10/hr

Scrotal swelling can occur. It is edema, not hernias (remember we looked at the rings from inside) so no US indicated. Just reassure the parents, nurses, and pediatricians.

Abscess:

Most perf'd kids look horrible POD #1-2, then rally days 3-5. A kid working on an abscess will look bad at 5 days.

We do a CBC with diff if they still have fevers, ileus, distention on POD #5. Check with attending first. Kids hate needles.

We CT most in whom an abscess is suspected, but always check with attending first.

This CT needs both PO and IV contrast and is never done before POD #5 -too many fluid collections would be misread as an abscess earlier. We do not ask for these CTs at night or on weekends b/c if an abscess is found we need IR

Many kids will not drink the contrast, so please order "RN place NGT for contrast if PO contrast not taken".

A 5 year old can hold 20 adults hostage sipping the PO contrast over 6 hours. Torture for all involved.

Attending will call IR and Pedi Sedation docs to warn that we might ask for a drain if an abscess is found on the CT.

Keep the kids NPO pre-CT in anticipation of sedation for the IR drainage.

Discharge:

When afebrile for 24 hours AND eating. No CBC requirement.

Average stay is 3-5 days.

Augmentin 45 mg/kg q 12 for one week. For children use the LIQUID, and the ES LIQUID for bigger kids.

Average age for pill taking is 12-14, but always ask parents – kid may say "yes" but parents know.

VOT: Keep it flexible and say what was done and when but no restrictions: "Back to school, PE, Sports, travel, all activity at their own pace letting pain be their guide" and "Parents may need time off to care for them during their recovery"

TAV in 7-10 days. Sullivan will book this.

Thanks

You guys ROCK at pedi appys.

Over the years this operation and postop care regimen have been created and fine tuned by hundreds of surgery residents and nurses, so whenever you see room for improvements speak up and we'll give it a try.

Thank you!!

Kerry