

Pediatric Ovarian Torsion

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What is a Clinical Pathway?



An evidence-based guideline that decreases unnecessary variation and helps promote safe, effective, and consistent patient care.

Objectives of the Pathway



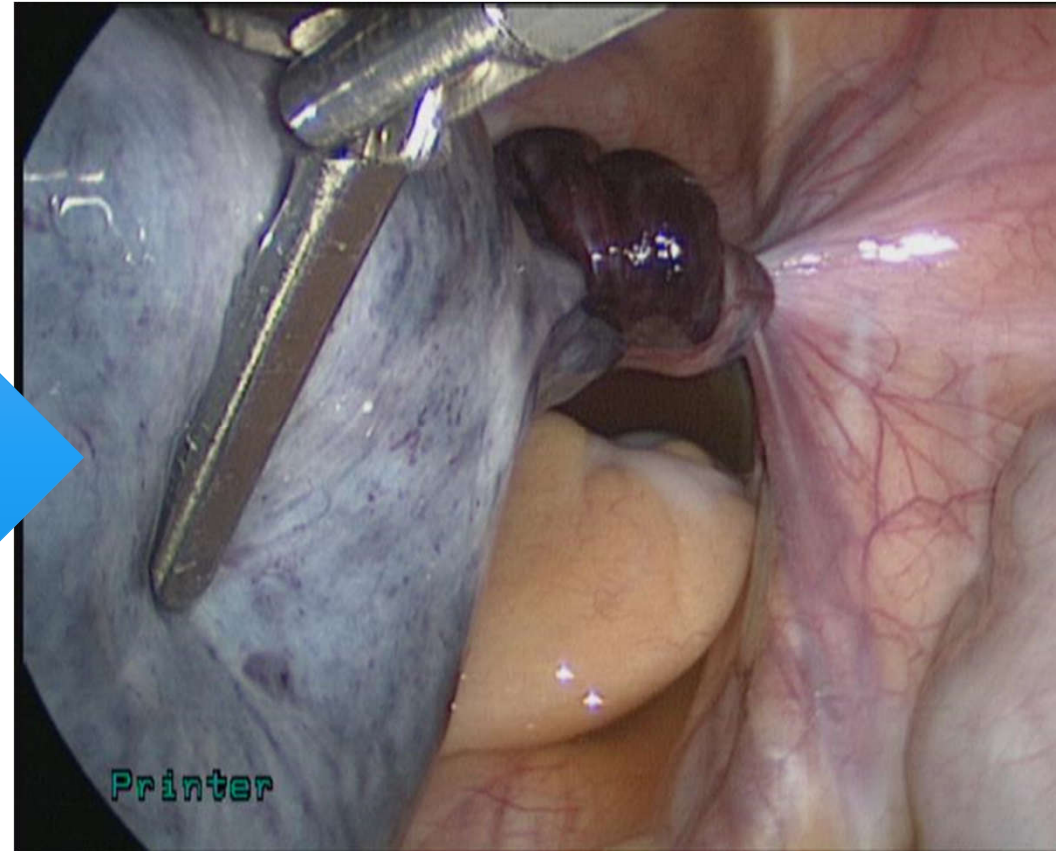
Implement a systematic approach to manage patients presenting with ovarian torsion
Achieve prompt recognition and rapid definitive surgical treatment for patients with this condition

Outline consistent discharge criteria and ensure appropriate outpatient follow-up for patients with ovarian torsion

Why is the pathway necessary?

Ovarian torsion is the complete or partial rotation of the ovary on its pedicle, leading to ischemia and potential loss of the ovary

A dusky torted ovary



Why is the pathway necessary?

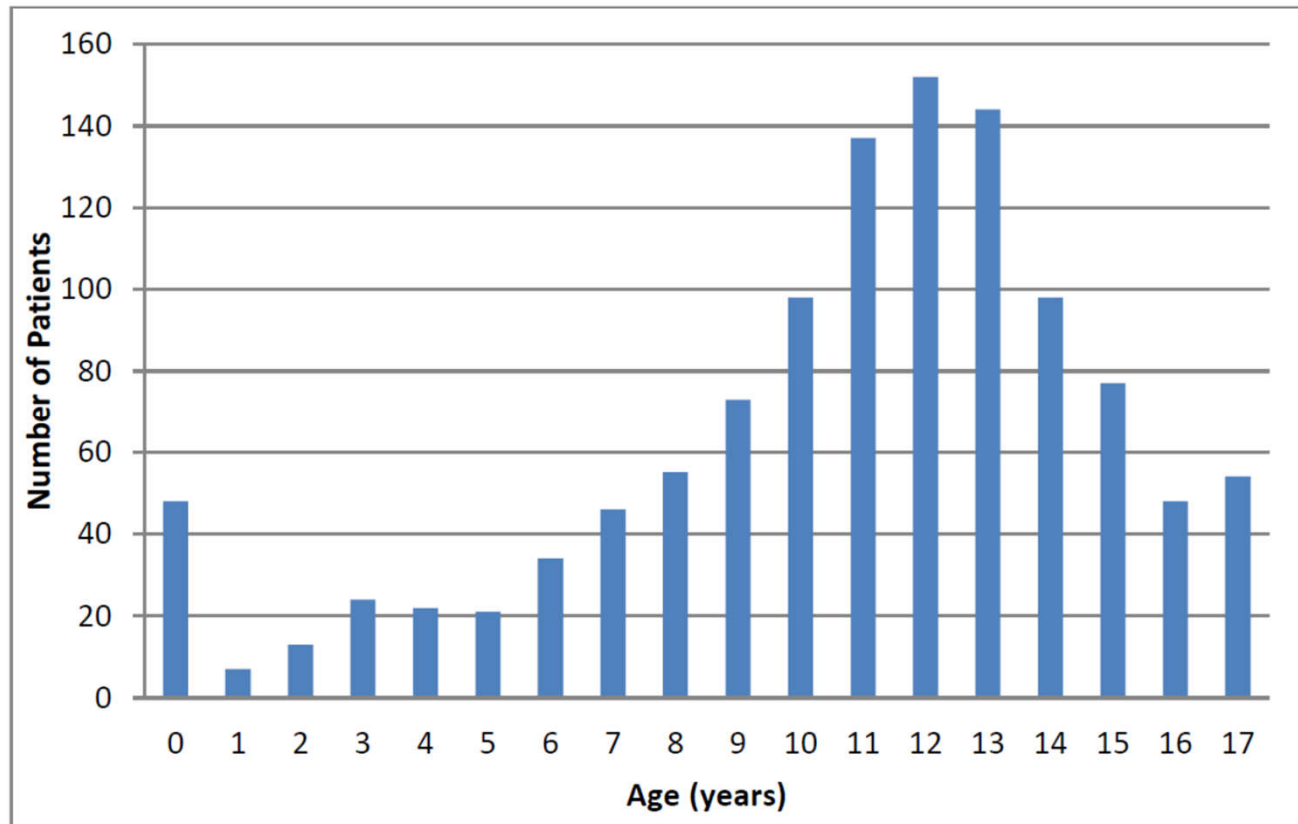


Early diagnosis can be challenging as ovarian torsion accounts for only 3% of acute abdominal pain in females, and can mimic other more common conditions

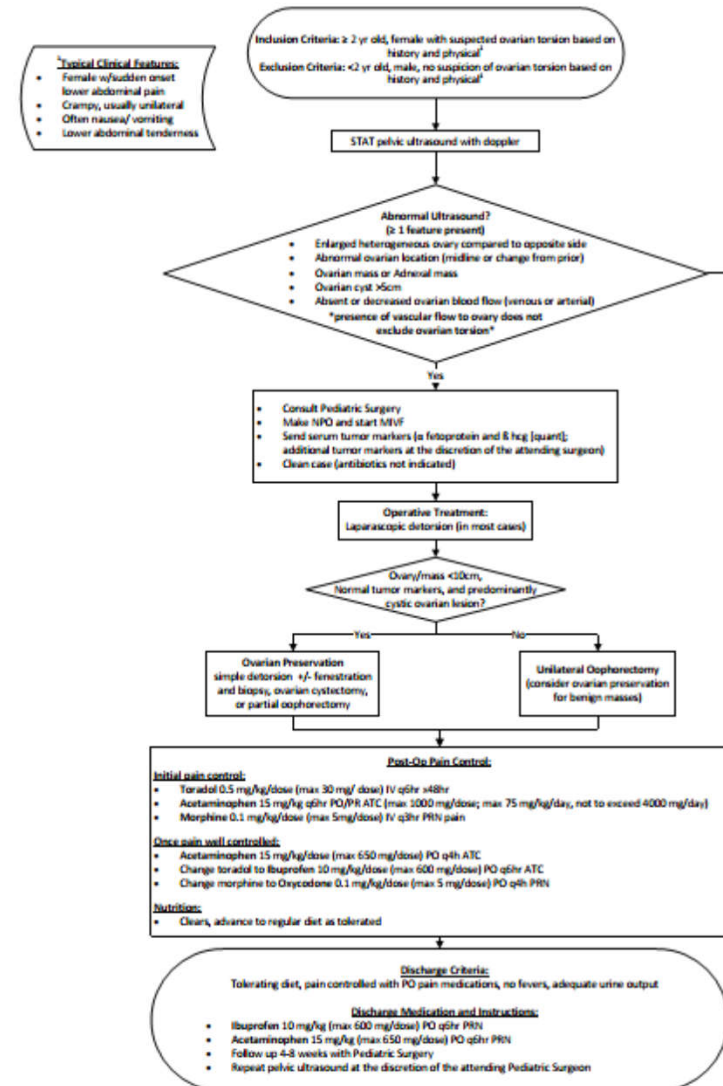
While Doppler ultrasound is an important part of the initial workup, normal ovarian appearance and Doppler flow do not exclude the possibility of torsion

Prompt surgical treatment with operative de-torsion is the key factor leading to ovarian salvage

Age Distribution of Ovarian Torsion



CLINICAL PATHWAY: Ovarian Torsion



This is the Ovarian Torsion Clinical Pathway. We will be reviewing each component in the following slides.

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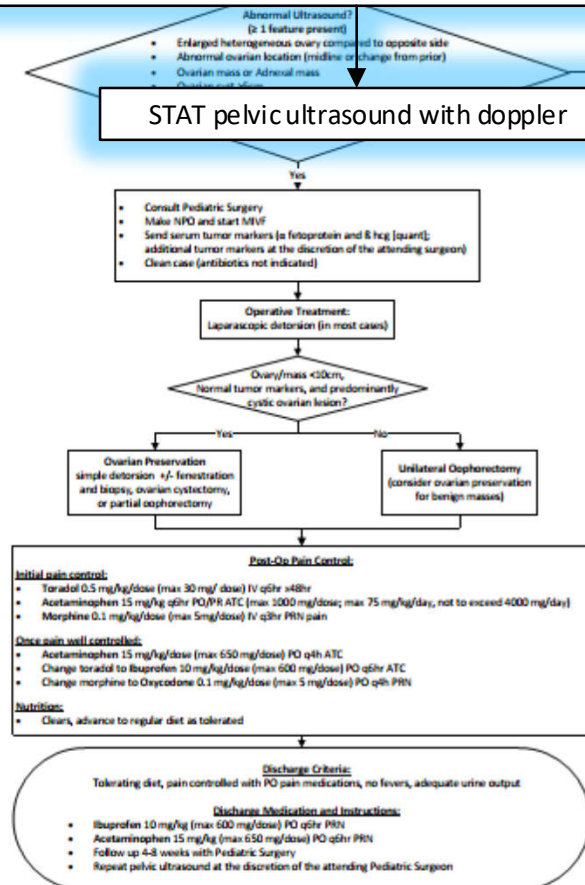
any female patient 2 years or older who presents with clinical features concerning for Ovarian torsion, should have a STAT pelvic ultrasound with Doppler.

¹Typical Clinical Features:

- Female w/sudden onset lower abdominal pain
- Crampy, usually unilateral
- Often nausea/ vomiting
- Lower abdominal tenderness

**CLINICAL PATHWAY:
Ovarian Torsion**

Inclusion Criteria: ≥ 2 yr old, female with suspected ovarian torsion history and physical¹
Exclusion Criteria: <2 yr old, male, no suspicion of ovarian torsion history and physical¹



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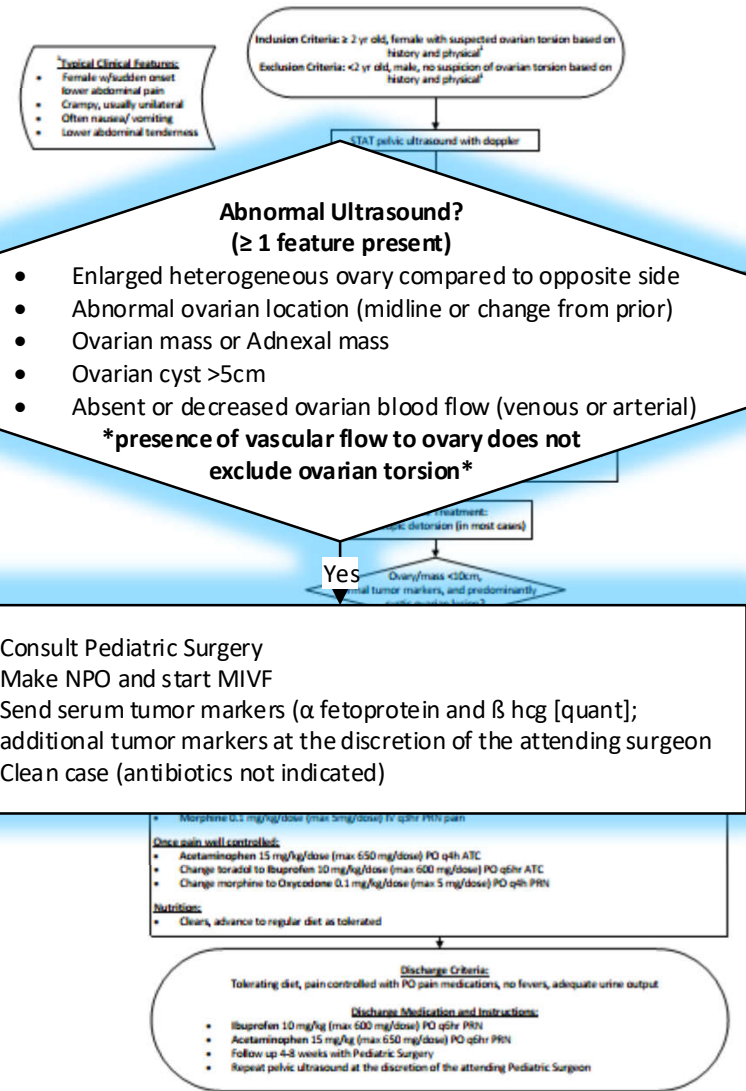
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**CLINICAL PATHWAY:
Ovarian Torsion**

the Pelvic Ultrasound is positive for one or more radiographic feature, then proceed down the pathway and prepare the patient for surgery. Consult Pediatric Surgery. Make patient NPO. Send STAT serum tumor markers.

➔ Note that no antibiotics are necessary



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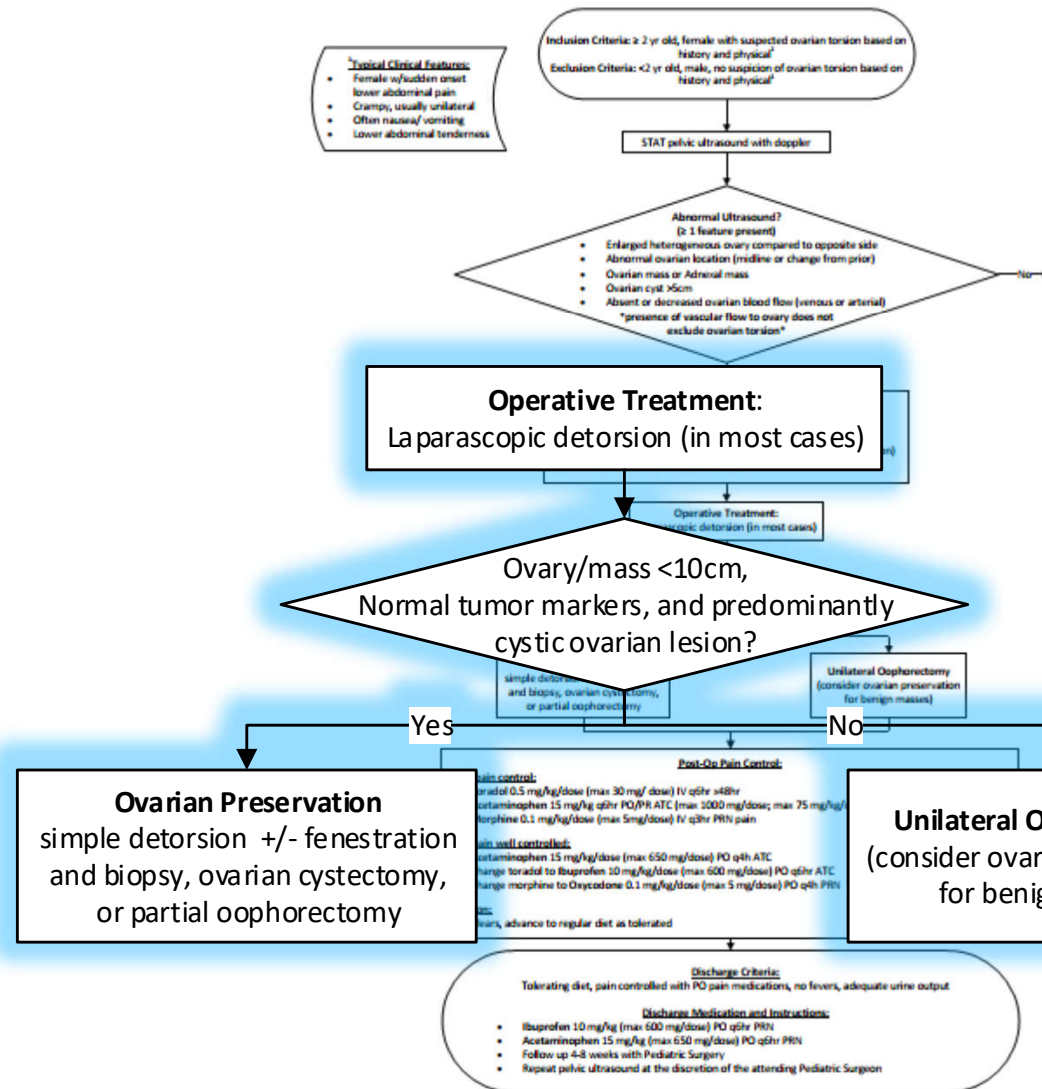
The operative goal is ovarian preservation whenever possible.

Certain factors that may lead to unilateral oophorectomy are:

- Large masses (over 10 cm)
- Abnormal tumor markers
- and/or
- Solid or non-cystic masses

See the algorithm for Operative management on the next slide

CLINICAL PATHWAY: Ovarian Torsion

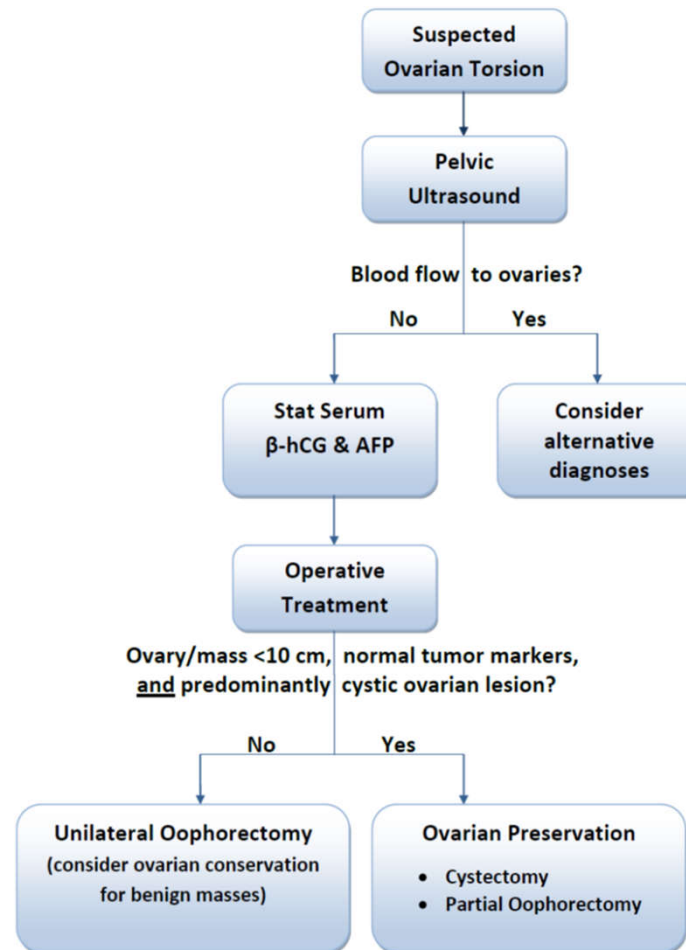


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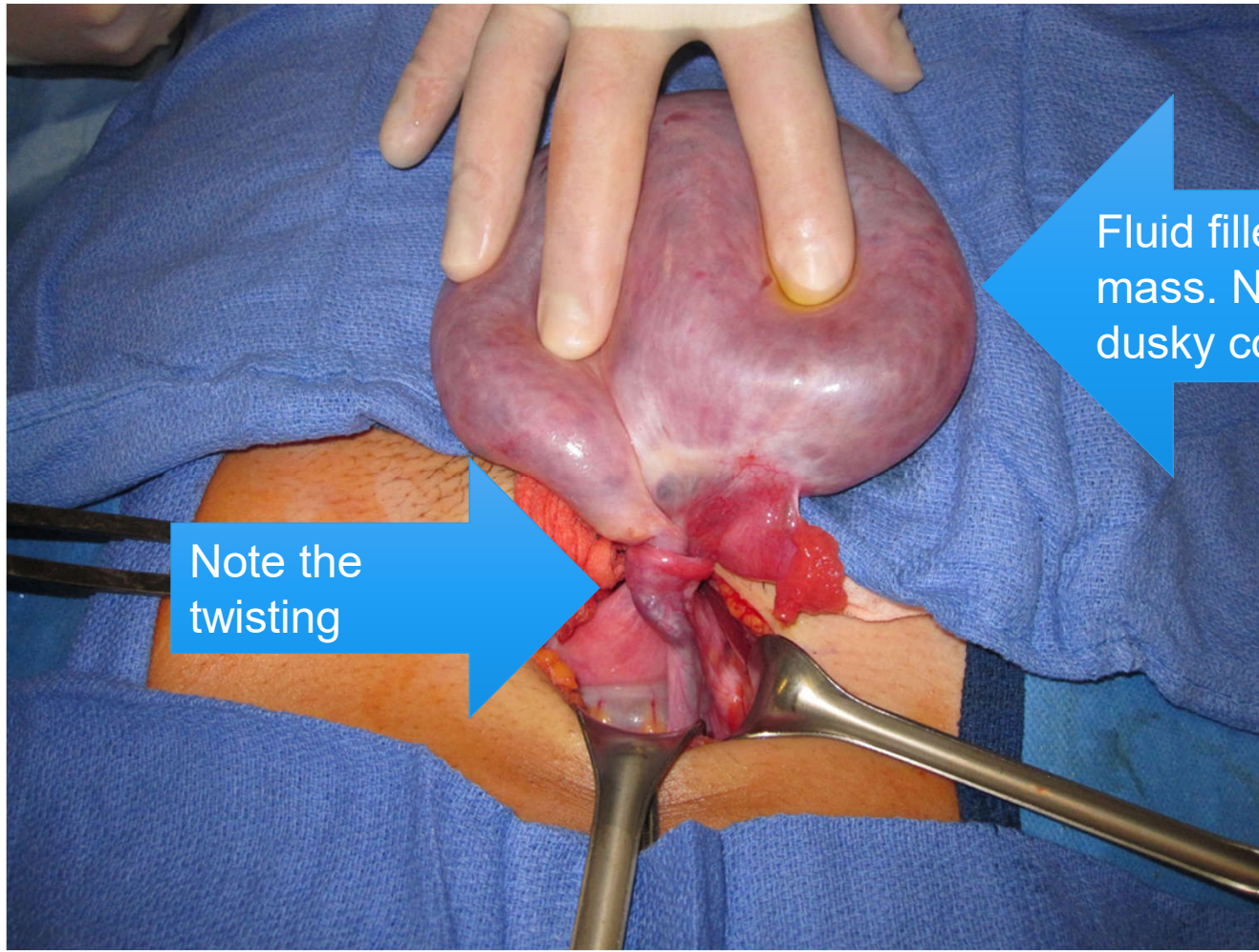
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Algorithm for Operative Management



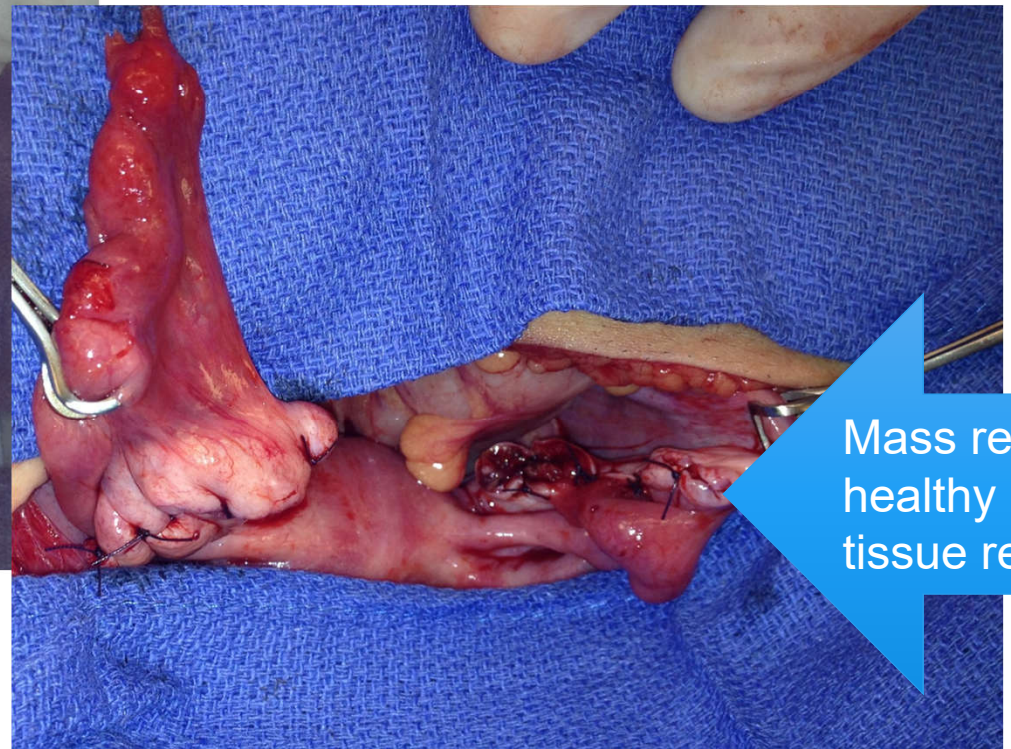
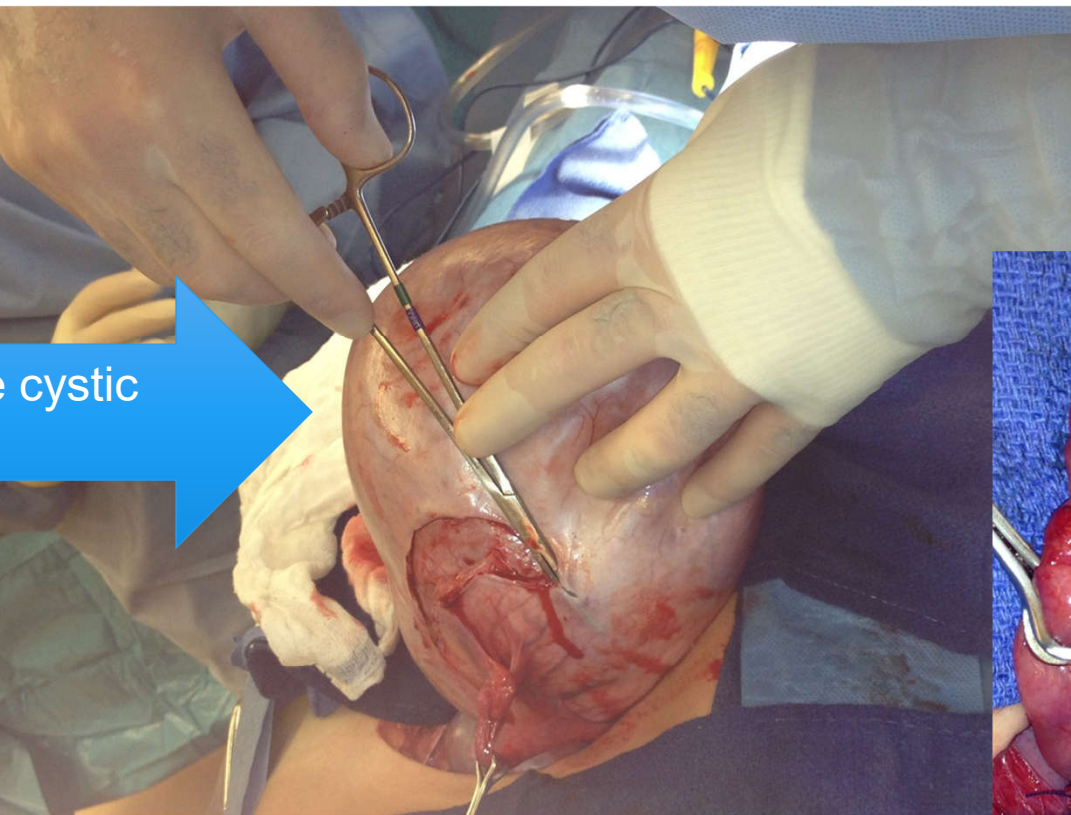
Torsed Ovary



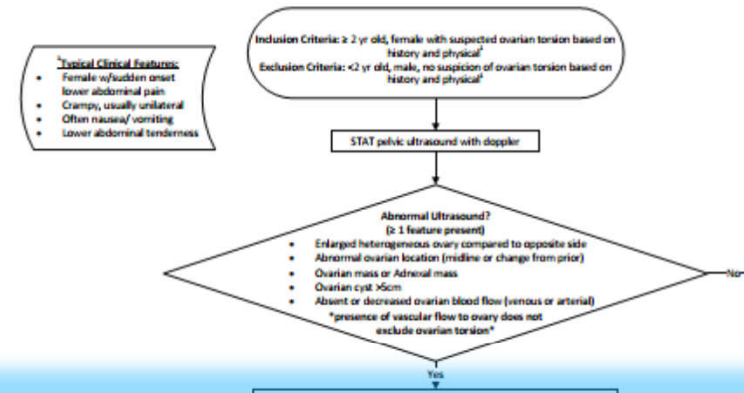
Fluid filled cystic mass. Note the dusky color.

Note the twisting

Ovarian Preservation



CLINICAL PATHWAY: Ovarian Torsion



Post-Op Pain Control:

Initial pain control:

- **Toradol** 0.5 mg/kg/dose (max 30 mg/ dose) IV q6hr x48hr
- **Acetaminophen** 15 mg/kg q6hr PO/PR ATC (max 1000 mg/dose; max 75 mg/kg/day, not to exceed 600 mg/dose)
- **Morphine** 0.1 mg/kg/dose (max 5mg/dose) IV q3hr PRN pain

Once pain well controlled:

- **Acetaminophen** 15 mg/kg/dose (max 650 mg/dose) PO q4h ATC
- Change toradol to **Ibuprofen** 10 mg/kg/dose (max 600 mg/dose) PO q6hr ATC
- Change morphine to **Oxycodone** 0.1 mg/kg/dose (max 5 mg/dose) PO q4h PRN

Nutrition:

- Clears, advance to regular diet as tolerated

Discharge Criteria:

Tolerating diet, pain controlled with PO pain medications, no fevers, adequate urine output

Discharge Medication and Instructions:

- **Ibuprofen** 10 mg/kg (max 600 mg/dose) PO q6hr PRN
- **Acetaminophen** 15 mg/kg (max 650 mg/dose) PO q6hr PRN
- Follow up 4-8 weeks with Pediatric Surgery
- Repeat pelvic ultrasound at the discretion of the attending Pediatric Surgeon

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Most operative management starts with pain control

Once pain is well controlled and patient is tolerating a regular diet, switch over from IV to PO pain medications

No narcotics required at discharge

Follow up is in 4-8 weeks in the surgery clinic. Need for repeat pelvic ultrasound is determined on a case by case basis.

Quality Metrics



Average time from arrival to start of imaging (pelvic ultrasound with Doppler)

Average time from imaging to start of definitive operative management

Percentage of patients with ovarian preservation

Pathway Contacts



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Program Manager Children's Surgery Verification

References



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Thank You!



About Connecticut Children's Clinical Pathways Program

The Clinical Pathways Program at Connecticut Children's aims to improve the quality of care our patients receive, across both ambulatory and acute care settings. We have implemented a standardized process for clinical pathway development and maintenance to ensure meaningful improvements to patient care as well as systematic continual improvement. Development of a clinical pathway includes a multidisciplinary team, which may include doctors, advanced practitioners, nurses, pharmacists, other specialists, and even patients/families. Each clinical pathway has a flow algorithm, an educational module for end-user education, associated order set(s) in the electronic medical record, and quality metrics that are evaluated regularly to measure the pathway's effectiveness. Additionally, clinical pathways are reviewed annually and updated to ensure alignment with the most up to date evidence. These pathways serve as a guide for providers and do not replace clinical judgment.