**STANDARD TREATMENT WORKFLOW (STW)**

# Congenital Inguinal Hernias

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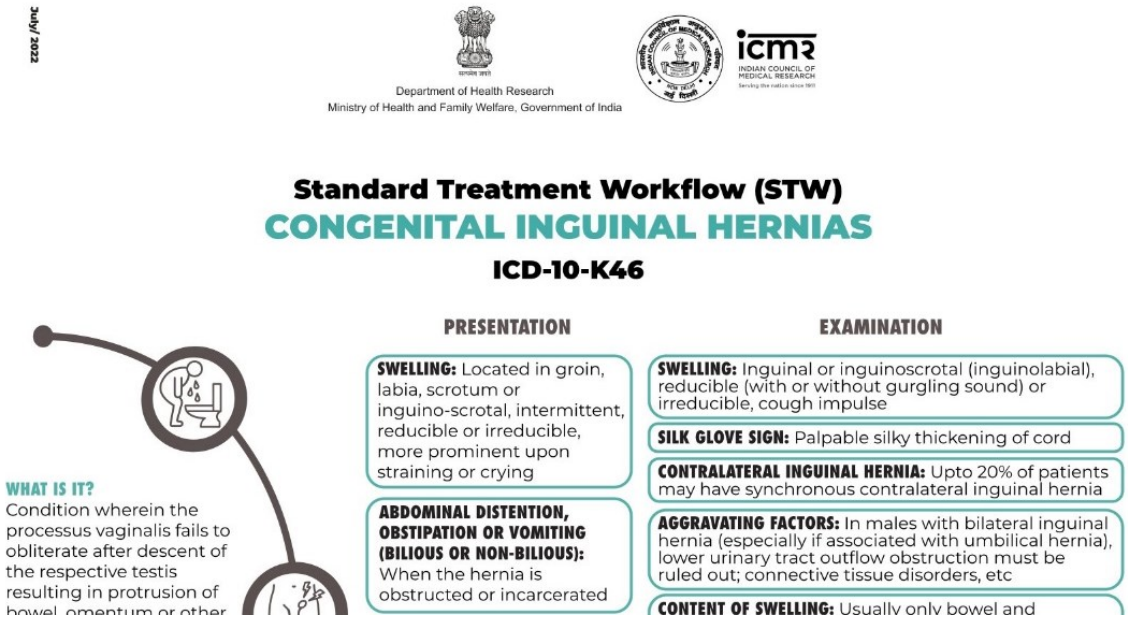

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# Standard Treatment Workflow (STW)

## CONGENITAL INGUINAL HERNIAS

**ICD-10-K46**

**WHAT IS IT?**
Condition wherein the processus vaginalis fails to obliterate after descent of the respective testis resulting in protrusion of bowel, omentum or other intra-abdominal contents into the inguinal canal or beyond.

Occurs in 1-5% of new-borns, 10% of preterm new-borns

### PRESENTATION

**SWELLING:** Located in groin, labia, scrotum or inguino-scrotal, intermittent, reducible or irreducible, more prominent upon straining or crying

**ABDOMINAL DISTENTION, OBSTIPATION OR VOMITING (BILIOUS OR NON-BILIOUS):** When the hernia is obstructed or incarcerated

**CONSTITUTIONAL SYMPTOMS:** When the hernia is incarcerated, and the bowel perforated

Obstructive inguinal hernia

### EXAMINATION

**SWELLING:** Inguinal or inguinoscrotal (inguinolabial), reducible (with or without gurgling sound) or irreducible, cough impulse

**SILK GLOVE SIGN:** Palpable silky thickening of cord

**CONTRALATERAL INGUINAL HERNIA:** Upto 20% of patients may have synchronous contralateral inguinal hernia

**AGGRAVATING FACTORS:** In males with bilateral inguinal hernia (especially if associated with umbilical hernia), lower urinary tract outflow obstruction must be ruled out; connective tissue disorders, etc

**CONTENT OF SWELLING:** Usually only bowel and omentum, ovary (and/ or fallopian tube) in females and testis in boys with associated cryptorchidism; torsion of gonad to be ruled out

**LOOK FOR DANGER SIGNS**

**DANGER SIGNS**
Irreducibility of swelling in isolation or associated with:
- Irritable, inconsolable child
- Distention of abdomen and obstipation
- Bilious vomiting
- Unilateral, swollen and erythematous labia: may suggest torsion of ovary
- Peritonitis

### INVESTIGATION

**PRE-ANAESTHESIA ASSESSMENT**

**ESSENTIAL:** Hemogram, serum electrolytes, other blood investigations depending upon general condition of patient and co-morbidities as per anaesthetist

**DESIRABLE:** Ultrasonography & Karyotype (in all female inguinal hernias) to rule out complete androgen insensitivity syndrome

### TREATMENT (SURGERY)

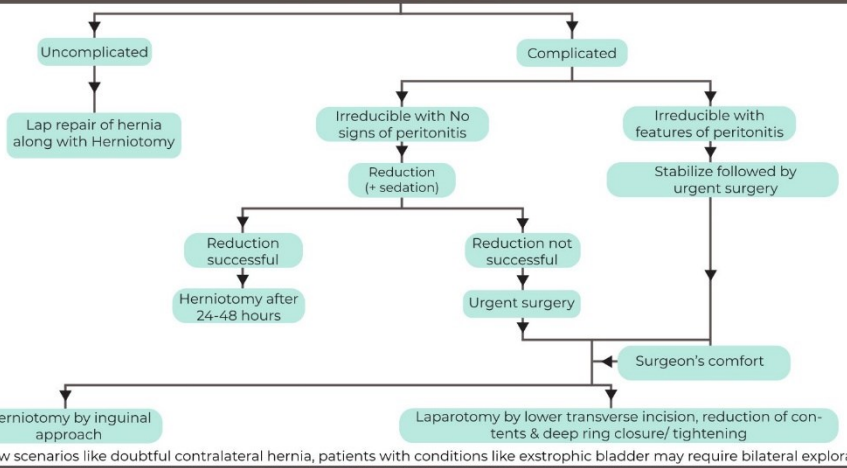
**TREATMENT OF CHOICE:** Inguinal herniotomy or laparoscopic repair under general anaesthesia
- Complicated hernias may need additional manoeuvres: simple reduction or laproscopic reduction for irreducible hernias, bowel repair/ resection-anastomosis for vascular comprise of bowel
- In female hernia, the sac should be opened and inspected for presence of fallopian tube which must be preserved.
- It is recommended that the surgery be carried out by a paediatric surgeon and that anaesthetist should be experienced in paediatric and neonatal anaesthesia

**MANDATORY FACILITIES IN THE CENTER**
- Term neonate or pre-term neonate (less than 60 weeks post-conception age): dedicated Surgical NICU managed by pediatric surgeon or NICU managed by neonatologist
- Older kids: round-the-clock paediatrician or paediatric surgeon for post-operative monitoring
- The primary/ community/ district health centre should make the diagnosis, explain the danger signs to the parents and refer the patient to a higher centre with defined infrastructure
- Children with complicated hernia without peritonitis: Should attempt reduction without sedation. With peritonitis: Insert NG and initiate reduction and refer to higher facility immediately

**TIMING AND PLACE OF SURGERY**
As early as possible but not a dire emergency. Danger signs should be explained to the parents at the time of making the diagnosis itself Surgical NICU managed by Pediatric Surgeon or NICU managed by neonatologist
In inborn neonates who are diagnosed with inguinal hernia, surgery should preferably be performed prior to discharge

**FOLLOW-UP: WITH WHOM?**
- The first follow-up after discharge should be with the operating surgeon.
- Subsequent follow-up may be with the primary health centre close to the residence of the patient subject to approval by the operative surgeon

### INGUINAL HERNIA DECISION TREE




**Note:** Few scenarios like doubtful contralateral hernia, patients with conditions like exstrophic bladder may require bilateral exploration

**KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES**

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit the website of DHR for more information: (**stw.icmr.org.in**) for more information.
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