

## EMBRYOLOGIC TIMELINE:

- Weeks 5-9 → Gonocytes, leydig and sertoli cells differentiation
- Week 7 → Creation of gubernaculum
- Weeks 14-17 → Peak levels of testosterone and INSL3
- 2nd Trimester → Swelling of gubernaculum
- Week 20-28 → The beginning of testes trans-inguinal descent

Mediators responsible for testis descent: **Gubernaculum, Genitofemoral nerve, Processus vaginalis, Androgens, Cremaster**

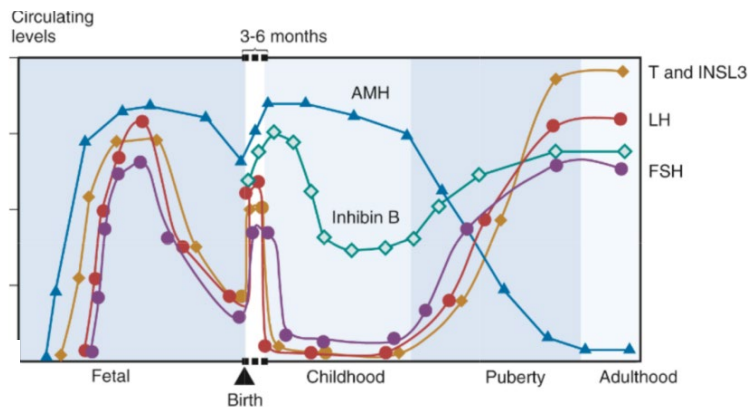
## SYNDROMIC CRYPTORCHIDISM:

- GENITOURINARY** – posterior urethral valve, prune-belly sd.
- NEUROLOGIC** – cerebral palsy, spinal myelodysplasia
- ABDOMINAL WALL** – hernia, omphalocele
- GENETIC** – Down syndrome, Klinefelter

**TREATMENT:** surgical replacement in the scrotum before 12 months.

- Hormonal therapy to induce descent is no longer supported
- Laparoscopy is the procedure of choice in the Dx and Tx of nonpalpable testis**
- Abdominal testis not reaching the contralateral inguinal ring after mobilization maneuvers → **Fowler-Stephan orchidopexy (1 or 2 stages):**
  - Dissection of the gonadal vessels
  - Blood supply to testis is based on the deferential artery, cremasteric artery and collateral peritoneal vessels
  - Second stage 6 months after first stage
  - Higher results of testis atrophy compared to primary orchidopexy

## HORMONAL PROFILE:



## KEY RULES:

**Diagnostic imaging has not been shown to change the need for surgery!!!**

**Physical examination is the key for diagnosis.**

**Descent mostly occurs up until 6 months!! This is the timeline cutoff for intervention.**

## ABDOMINAL / NONPALPABLE TESTES:

- Signs for vanishing testis - **Contralateral hypertrophy > 2 cm**, Palpable nubbin, High FSH, Micropenis
- Bilateral nonpalpable testes + Male genital phenotype** → suspected DSD / CAH → **Karyotype!!**

## UNDESCENDED TESTES COMPLICATIONS:

- HERNIA**
- TORSION**
- MALIGNANCY (X 2-5).** An undescended testis in a post-pubertal boy or older: discuss removal in case of a contralateral normal testis in a scrotal position.
- INFERTILITY:** in unilateral fertility rate is reduced whereas paternity rate is not

