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# Hip Stability Exercise Progressions for Reduction of Running Injuries

with

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**Nb: hip stability exercises are printed in bold, the fine print are core stability exercises.**

**Objective Tests:**

**1) Trendelenburg :** Gives an indication of hip stability in the coronal plane i.e. lateral sling, weak glut med. Can also give an indication of stability in other planes

- Part 1: One leg stand
- Part 2 : One leg squat
- Part 3: One leg hop

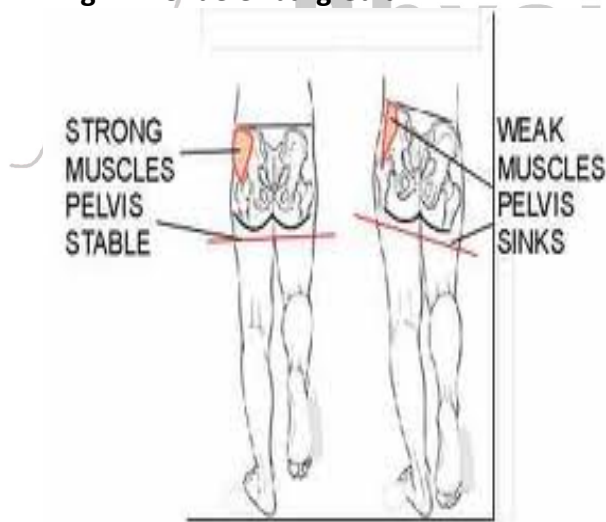
Contralateral drop = positive test and indicates weak hip abductors of the stance leg.

**2) Treadmill observation (lower limb malalignent syndrome)**

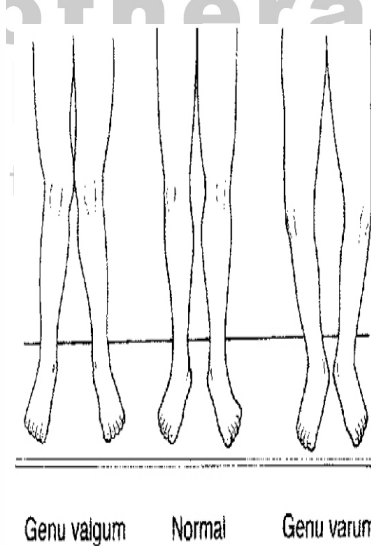
- Pronation,
- Knee valgus (genu valgum)
- Trendelenburg
- Foot strike
- Triple extension
- Trunk rotation



**fig 1: Trendelenburg Gait**



**Fig2: Genu Valgum (Knock Knees)**



### **Level 1:**

VIP

- **Pelvic position awareness drills (ant/post and lateral tilt)**
- **Prone fig 4 glut activation**
- **Prone glut activation and leg lift**
- **Clamshell**
- **Bridge**
- TVA/PF/multifidus activation
- TVA + fall out
- TVA + leg lift (and extend)
- 4 point arm, leg (opp arm+leg ) lift

### **Level 2:**

*Progression requirements from level 1 include:*

- 1) Able to activate glut unilaterally independent of h/s
- 2) Able to complete 3 x 15 bridges 3sec hold at top, nil h/s cramp or excessive activation
- 3) TVA + leg lift nil pelvic rotation, minimal rectus activation

- **Free squat (unloaded)**
- **Bridge plus leg lift**
- **Hip hitch**
- Kneeling plank
- Kneeling side plank
- Ball supermans

### **Level 3:**

*Progression requirements from level 2 include*


- 1) Able squat 3 x 15 with equal hip knee loading to 90degrees of knee flexion
- 2) Able to complete 3 x 10 bridge plus leg lift 2 sec with good lumbar control, nil h/s cramps
- 3) Kneeling plank 3 x 1min
- 4) Superman 3 x 15
  - **Stationary lunge (progress with step back)**
  - **Bulgarian split squat**
  - Plank
  - Side plank
  - Back extension
  - 1 arm cable row
  - 1 arm cable press
  - bent over row ( light)
  - Romanian dead lift (light)

#### **Level 4:**

*Progression requirements from level 3 include*

- 1) 3 x 10 bulgarian split squat with equal hip knee loading, hips equal height (ie nil trendelenburg)
- 2) Plank 3 x 1min
  - **Walking lunge**
  - **1 x leg squat**
  - Side plank (star)
  - Plank plus leg lift (plus ball, BOSU, balls etc)
  - 4 Point opp arm/leg lift ( from push up position)
  - Woodchopper
  - Cable push pull
  - Loaded exercises from previous levels

#### **Level 5:**

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- Kettlebell swings
  - Olympic lifting clean/snatch
  - Plank rotations
  - **Various bounding plyometrics**