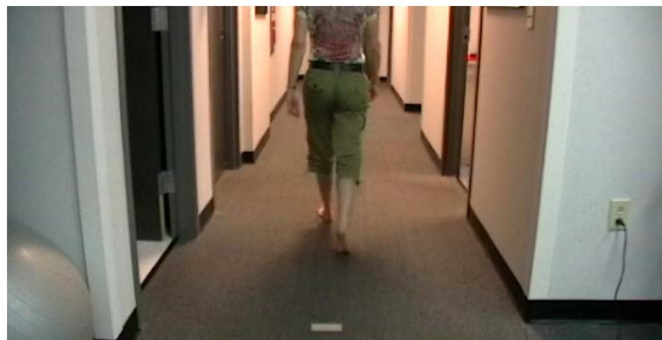
Dart Fish Gait and Functional Assessment
Performed for __________



Date: July 1, 2009
Sports Downtown Clinic
By: Trent Nessler, PT, DPT, MPT

Running History

Name:______________________ Date:_____7/28/09________

Age:__________ Weight:___110_______ Height:__5'6"____

S: ________ is a ___ y/o active female who c/o B ankle pain of insidious origin with the L > R. She states she began having pain ~1 year ago and 4-6 weeks ago it began to limit her fast walking and running. She states this was recently exacerbated when walking on the beach without shoes. During this time, she had to stop walking and have her husband pick her up in the car. Recently, she has had to give up a lot of her physical activities and walking > 30 min. She exercises 3-4 days per week consisting of weight training, cardiovascular exercise and is a black belt in karate.

Past Medical History: no fracture, tendonitis w/ current x-rays, **L ACL reconstruction in 90' and R ingunial hernia for > 12 years with recent exacerbation in last 6 months.**

O:
Posture: = illiac crest, = arc height B, no calcaneal sup/pro, no genu recurvatum

Range of Motion:

AROM	R	L
DF	4	4
PF	58	54
IV	WFL	WFL
EV	WFL	WFL

PROM	R	L
DF	8	8
PF	60	60
IV	WFL	WFL
EV	WFL	WFL

MMT	R	L
Quad	5/5	5/5
Ham	5/5	5/5
Add	4-/5	4+/5
G.med	4-/5	4/5
G.Max	4/5	4/5
DF	4/5	5/5
PF	5/5	5/5
IV	5/5	5/5
EV	5/5	4/5

Special Tests:
ANKLE

Anterior Drawer: negative
Inversion/Eversion Stress: negative
Homan's Sign:Negative for deep vein thrombosis.

Palpation:

Pain: Tenderness of the L achilles ~2" proximal of calcaneal insertion > tenderness of R achilles ~2" proximal of calcaneal insertion

Mobility:decreased rear and forefoot mobility with calcaneal inversion/eversion and transverse

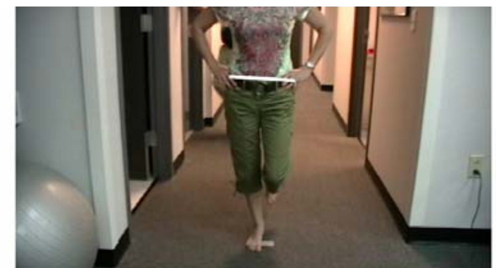
Functional Testing (dart fish video analysis):

Standing Squat:

L lateral shift with flexion > 45 degrees, notable adduction/IR with ascent/descent B with R > L. Increase in magnitude with increased repetitions. Indicating eccentric and concentric g.med weakness, possible limitation of L knee ROM, or poor proprioception

SL Stance:

Notable trendelenburg at initiation of testing R with movement in/out of throughout testing. More pronounced as testing continued. Indicating possible strength and endurance deficits with G.med R> > L



Step-ups:

Notable adduction, internal rotation and pes plantus R > L with ascent and descent. Lack of eccentric control with step down. Indicating possible g.med eccentric and concentric weakness and decreased eccentric quad control.

SL Squat:

Notable and significant adduction/IR R > L with increase in magnitude R with increased repetitions, notable loss of control at foot/ankle with increased pes plantus R with increased repetitions. Indicating possible foot/ankle weakness and g.med weakness.

Walking Gait

Biomechanical Assessment:

_____Excessive vertical oscillation
_____Excessive trunk/arm rotation
_____Excessive trunk lean
_____Over-striding
___X__Trendelenburg
___X__Decrease hip extension
_____Knee Varus/valgus
___X__Ankle IR/ER
_____Rear foot pronation
___X__Excessive femoral IR

Note: Trendelenburg with mid-stance phase L. Confirmed g.med weakness with MMT.

Note: R foot ER with toe off to heel strike with intermittent “scuffing” with swing through. Confirmed R DF weakness with MMT to DF.

Note: Significant R trendelenburg with mid-stance R with notable adduction and internal rotation. Confirmed G.med weakness with MMT.

A: Patient has a history of L ACL reconstruction and R inguinal hernia for 10+ years. She reports that her inguinal hernia has become progressively more painful with weight training, cardio and karate and has been limiting with her functional activities. Despite her previous L orthopedic history and her current complaints of L heel pain > R heel pain, it is surprising the magnitude of compensatory strategies she has where she is shifting her weight line to her L more than her R.

After extensive assessment of the entire kinetic chain, patient presents with significant weakness and decreased endurance of the core, lumbopelvic and LE. This is most evident with the pathokinematics she demonstrates with functional activities (step-ups, walking gait, squats) and is confirmed with both special testing and with MMT to the region. I believe these weaknesses may be contributing to abnormal force attenuation along the entire kinetic chain and adding to her current pain pattern. I also believe she will progress very well with a program that emphasizes eccentric and concentric strengthening to the entire kinetic chain and lumbopelvic region.

Summary

Problem List:
1.___Decrease strength and endurance of the R g.med____
2.___Decrease strength and endurance of ankle and calf complex
3.___Decreased flexibility of R hip secondary to inguinal hernia
4.___Decreased proprioceptive awareness/kinestic awareness (pathokinematics)

Patient Goals:
1.___Return to previous level of activity without pain_____
2.____
3.____
4.____

Plan:
Following exercise recommendations:
1. Dynamic stretches to the hip
2. calf stretches
3. Eccentric/Concentric strengthening of the DF
4. Squats
5. g.med progression
    a. Side-stepping and retro monster
    b. G.med on pb
6. 4 way ankle

Physical Therapist/Athletic Trainer_____Trent Nessler, PT, DPT, MPT _________