POSTPARTUM CORE/PELVIC FLOOR STRENGTHENING AND RETURN TO SPORT

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OBJECTIVES

- Present and describe musculoskeletal issues present after pregnancy and delivery
- Address current evidence regarding physical therapy treatment of these common presentations
- Discuss potential problems with current method of postpartum return to activity/sport
- Describe role and importance of physical therapy to return to high level of sport after pregnancy
COMMON POSTPARTUM MSK COMPLAINTS

- Low back/SlJ pain
- Hip pain
- Thoracic/rib pain
- Neck pain/headache
- Carpal tunnel
- Diastasis recti abdominis (DRA)
- Pelvic floor muscle dysfunction/stress urinary incontinence (SUI)
- Pelvic organ prolapse (POP)
- Pelvic pain
WHAT HAPPENS TO THE CORE DURING PREGNANCY?

- Diaphragm: descent restricted
- Transversus abdominis: stretched out
- Pelvic floor muscles: increased workload
- Multifidi: little to no effect (although some effect on length potentially due to increased lumber lordosis)
DIASTASIS RECTI ABDOMINIS (DRA)

- 100% prevalence at gestational week 35 (Fernandes et al, 2005)
- 50-60% 6 weeks post-natal
- 39-45% 6 months post-natal (Fernandes et al, 2005 and Sperstad, 2016)
- Kamel, et al (2017) demonstrated that a 3x/week, 8 week gentle abdominal exercise program that included abdominal approximation with scarf (with or without NMES applied to abs) had significant positive effects on participant’s BMI, waist circumference, and inter-recti distance.
EXERCISE/MOVEMENT PRECAUTIONS FOR SEVERE DRA

- Avoid twisting/reaching activities
- No higher level abdominal exercises (i.e. full sit-ups, leg drops/lifts)
- Make sure getting up from lying down via log roll method
- May need manual splinting during coughing or sneezing
As many as 50% of all parous women have some degree of clinical prolapse and 10-20% exhibit symptoms (Milsom et al, 2009).

Personalized pelvic floor muscle training (PFMT) for 16 weeks to 6 months is effective for improving pelvic organ prolapse symptoms.

PFMT group vs. control group demonstrated significant improvement in prolapse stage and reduced frequency of symptoms (Braekken et al, 2010).

Exercise precautions:
- Avoid impact exercises due to increased risk for further prolapse.
- Perform abdominal/core strengthening exercises with hips/legs elevated on step or physioball.

Prolapse symptoms may not appear until years after prolapse has occurred.
Pelvic floor muscle dysfunction and incontinence

- Pregnancy and vaginal delivery considered main risk factors for developing stress urinary incontinence (SUI)
- Urinary incontinence (UI) rates of 34% were found in women 3 months postpartum (Wilson et al, 1996)
- Mørkved and Bo (1999) reported 42% incontinence rate during pregnancy, which dropped only to 38% at 2 months postpartum
- Prevalence of SUI at 43 months after first delivery was 38.6% (Ng et al, 2017)
A 12-week supervised, intensive pelvic floor muscle training program significantly decreased reported UI at 36 weeks pregnant, as well as 3 months postpartum.

The program prevented UI in 1 in 6 women during pregnancy and 1 in 8 women after delivery

Pelvic floor muscle training program

- 8-12 max PFM contractions
- 6-8 sec holds
- +3 fast twitch contraction at end of each max PF contraction
- 2x daily for 3 months
- *Best results when instructions and feedback given by PT
Looked at 382 women 1-6 days postpartum

Assessed pelvic floor muscle contraction (PFMC) and Contractions of Other Muscles and other MOVments (COMMOV)
  - Contraction of rectus abdominis, gluteal muscles, adductor muscles, pelvic tilting, straining or breath holding

66% previously informed about PFM
  - 25% pregnancy info meeting
  - 21% prenatal PT
  - 29% earlier delivery

On first eval, 59% demonstrated correct PFMC. After 1-2 educational, 1-on-1 sessions with physiotherapist, 90% performed correct PFMC

When COMMOV were present (57%), the ability to perform correct PFMC was significantly lower—only 20% demonstrated correct PFMC
Most common COMMOV were tightening rectus abdominis, breath holding and gluteal activation.

Women who had been educated and had a 1-on-1 session regarding correct PFMC prior to delivery performed significantly less COMMOV after delivery.

Multiparous women demonstrated better PFM control only if they had underwent individual PFM session in the past.
1. Isolate pelvic floor contraction (no glutes, abs, adductors)
   - Looking for “up and in” motion with no pelvic tilting, glut activation, or “bulging” of abdominals
2. Able to activate AND relax pelvic floor
   - Make sure there are no spasms of the pelvic floor musculature
3. Coordinate pelvic floor and deep abdominals
   - TA marching, bent knee fallouts, clamshells, heel slides, SLRs
4. Transition to functional activities
   - Lifting mechanics: squatting, hip hinging, lunging, RDLs
- Amount of time needed for postpartum soldiers to return to pre-pregnancy fitness condition, as evidenced by Army PT scores ranged from 2-24 months, with a mean of 11 months.
- Soldiers reported that they didn’t feel like they were ready to return to activity at 6 weeks.
- Something to think about when returning postpartum women back to prior level of sport.
POSSIBLE RETURN TO SPORT (RTS) TESTING CRITERIA

- Not a lot of research currently for RTS postpartum.
- Following test was found to be reliable at detecting stress incontinence and may be useful for making the decision (Berild et al, 2012):
  - Cough and Jump Stress Test
    - Bladder emptied with catheter and filled with 300 ml saline
    - Patient standing, cough 3x as forcefully as possible
    - Performs 20 jumping jacks
    - Pad was worn and weighed for amount of incontinence
IN CONCLUSION…

- A woman’s body goes through a massive change during pregnancy and delivery that takes time and exercise to undo.
- PT can help during and after pregnancy with many common complaints.
- There is more to pelvic floor PT than a Kegel
- Time to return to exercise/sport should be decided on a case-by-case basis and should require a thorough eval.
- Consider referral to PT for postpartum women prior to them returning to high-impact sport.
REFERENCES

THANK YOU!