PERINATAL ABDOMEN: DIASTASIS RECTI ABDOMINIS NON-OPERATIVE GUIDELINES

The following are guidelines developed by HSS Rehabilitation to assist clinicians when working with the perinatal patient population. They are intended to take you through the spectrum of care from the prenatal to postpartum phase. They are based on the most current evidence and clinical pearls from experienced clinicians. The guidelines are not meant to be a substitute for clinical reasoning and decision making. It is the clinician’s responsibility to determine the most reasonable treatment model based on sound clinical judgment and the assessment of objective clinical findings. For appropriate utilization of these guidelines, it is imperative that the clinician be familiar with treatment-based classification systems and the influence of regional interdependence to make the most appropriate evidence-based decisions.

Diastasis recti abdominis (DRA) is defined as an impairment with midline separation of the 2 rectus abdominis (RA) muscles along the linea alba.\(^1\,\,2\) Studies have found that DRA may affect between 30% and 70% of pregnant women,\(^1\) and that it may remain in the immediate postpartum period in 35%-60% of women.\(^2\) However the condition has also been found in 39% of older, parous women undergoing abdominal hysterectomy\(^3\) and in 52% of urogynecological menopausal women.\(^4\)

DRA occurs due to hormonal elastic changes of the connective tissue, mechanical stresses placed on the abdominal wall from the growing fetus, and displacement of the abdominal organs.\(^1\,\,5\) DRA usually appears in the second trimester and is found most frequently in the third trimester. In addition to being a cosmetic concern for many women, it is hypothesized that DRA may reduce low back and pelvic stability, leading to low back and pelvic girdle pain.\(^6\,\,7\) It has also shown to be more prevalent in patients with pelvic floor dysfunctions such as urinary incontinence, fecal incontinence, and pelvic organ prolapse.\(^8\) These guidelines do not include treatment of the above mentioned diagnoses, referral to the appropriate medical providers is advised in those situations.

According to the 2019 Canadian Guideline for Physical Activity Throughout Pregnancy, all women can participate in physical activity throughout pregnancy with the exception of those who have contraindications (which will be listed below).\(^9\) The guideline states that women who have absolute contraindications may continue their usual activities of daily living but should not participate in more strenuous activities. Women with relative contraindications should discuss the pros and cons of exercise with their obstetric care provider prior to participation.
ABSOLUTE CONTRAINDICATIONS

• Ruptured membranes
• Premature labor
• Unexplained persistent vaginal bleeding
• Placenta previa after 28 weeks gestation
• Pre-eclampsia
• Incompetent cervix
• Intrauterine growth restriction
• High-order multiple pregnancy (e.g., triplets)
• Uncontrolled type I diabetes
• Uncontrolled hypertension
• Uncontrolled thyroid disease
• Other series cardiovascular, respiratory or systemic disorder

EXERCISE CONTRAINDICATIONS

• Recurrent pregnancy loss
• Gestational hypertension
• A history of spontaneous preterm birth
• Mild/moderate cardiovascular or respiratory disease
• Symptomatic anemia
• Malnutrition
• Eating disorder
• Twin pregnancy after the 28th week
• Other significant medical conditions
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Prenatal

PRECAUTIONS

• Receive clearance from obstetrician prior to initiating any form of exercise program
• Avoid motions that increase pressure on abdominals, i.e. anything that resembles a sit-up
• Avoid Valsalva maneuver, including forced exhalations and positions/movements/actions that increase intra-abdominal pressure, cause breath holding or urinary or fecal continence
• Avoid high impact activities such as jumping, running, heavy weightlifting without adequate pelvic floor control and core training via formal orthopedic and/or pelvic floor physical therapy (PT)
• Limit lying flat if this position increases any symptoms of dizziness, nausea, shortness of breath, or palpitations

ASSESSMENT

• Finger width palpation (most commonly used in clinic)
  o Patient positioned at rest in hooklying (elevate head on bed if patient is uncomfortable lying flat)
  o Palpate 4.5cm above, below, and at the level of the umbilicus to assess inter-rectus distance (IRD)
    ▪ Distance can be measured using finger widths, calipers, or tape measure
  o Have patient perform a curl-up (shoulder blades off) and perform the same palpation as above
  o Unremarkable: less than 2 finger widths
  o Remarkable findings:10
    ▪ Mild: 2-3 finger widths
    ▪ Moderate: 3-4 finger widths
    ▪ Severe: 4+ finger widths
    ▪ Visible protrusion along the linea alba may also be considered a positive test
• Ultrasound assessment is considered the gold standard due to high sensitivity to change and may be used when available2
• Suggested outcome measures:
  o Oswestry Disability Index (ODI)
TREATMENT RECOMMENDATIONS

- First Trimester
  - Goal: minimize exacerbation of DRA; begin gentle transverse abdominis (TA) activation and pelvic floor contraction
  - Treatment recommendations:
    - Postural education
    - Education on body mechanics during transfers
      - Log roll for bed mobility
    - Bracing or taping for support
    - Diaphragmatic breathing
    - Approximate abdominals with hands or use of tape
    - Progressive abdominal strengthening program to include RA/TA recruitment
    - Pelvic floor activation (Kegel)
    - Walking/ cardiovascular exercises (as approved by obstetrician)

- Second Trimester
  - Goal: Maintain core and pelvic floor support while abdominal growth continues
  - Continue to assess DRA as pregnancy progresses
  - Treatment recommendations:
    - Continued abdominal TA/RA pelvic floor engagement (if supine is no longer tolerable can elevate head on bead) or progress exercises to sitting on physioball quadruped/standing
    - Low impact aerobic activity (continued clearance by obstetrician)
    - Progressive strength training while maintaining core and pelvic floor contractions
    - Use of tape, abdominal support as needed
    - Postural strengthening as needed

- Third Trimester
  - Goals: maintain core and pelvic floor support while abdominal growth continues
  - Treatment recommendations:
    - Continued low impact cardio
    - Use of binders/tape for stability
    - Proper posture to support lumbo-pelvic stability
    - Progressive strength training while maintaining core and pelvic floor contractions per patient tolerance
    - Continued education on body mechanics during lifting and during transfers
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0-6 Months Postpartum

PRECAUTIONS
• Begin formal PT at/around 6 weeks postpartum following check-up with ObGyn; timing may differ depending on delivery method
• Refrain from aquatic exercise until cleared by ObGyn
• Avoid aggressive stretching of abdominals
• Avoid valsalva; including forced exhalations, positions/movements/actions that increase intra-abdominal pressure, cause breath holding or loss of bladder or bowel control
• Avoid high impact activities like jumping, running, heavy weightlifting without adequate pelvic floor control and core training via formal orthopedic and/or pelvic floor PT

ASSESSMENT
• Finger width palpation (most commonly used in clinic)
  o Patient positioned at rest in hooklying
  o Palpate 4.5cm above, below, and at the level of the umbilicus to assess inter-rectus distance (IRD)
    ▪ Distance can be measured using finger widths, calipers, or tape measure
  o Have patient perform a curl-up (shoulder blades off) and perform the same palpation as above
  o Unremarkable: less than 2 finger widths
  o Remarkable findings:10
    ▪ Mild: 2-3 finger widths
    ▪ Moderate: 3-4 finger widths
    ▪ Severe: 4+ finger widths
    ▪ Visible protrusion along the linea alba may also be considered a positive test
Considering that the main concern regarding DRA is force closure, it is important to assess the quality of the rectus abdominis contraction. Patients may present with an apparently significant separation of the rectus abdominis at rest, which closes during a curl up. Conversely, patients may present with no apparent separation at rest, but demonstrate an inability to generate force through the rectus abdominis during a curl up (i.e. the rectus abdominis remains flaccid).
• Ultrasound assessment is considered the gold standard due to high sensitivity to change and may be used when available2
• Suggested outcome measures:
  o Oswestry Disability Index (ODI)
TREATMENT RECOMMENDATIONS

- **Weeks 0-6 Postpartum**
  - Note: most patients will not be referred to formal PT until 6 weeks postpartum, however, patients can begin with these treatment recommendations before initiating formal postpartum PT, with proper education prior to giving birth
  - Goal: minimize exacerbation of DRA; begin gentle transverse abdominis (TA) activation and pelvic floor contraction
  - Treatment recommendations:
    - Postural education
    - Education on body mechanics during transfers
      - Log roll for bed mobility
    - Bracing or taping for support
      - Use of pillow or external cushion for forceful exhalation, i.e. coughing, laughing (post cesarean section)
    - Diaphragmatic breathing
    - Approximate abdominals with hands or external supportive device if necessary
    - Pelvic floor activation
    - Abdominal bracing (TA activation)
    - Walking

- **Weeks 6-12**
  - Goal: Maintain core and pelvic floor support during increasingly complex limb movements; progressing toward resistance exercises
  - More accurate assessment of DRA in this time frame as hormone levels stabilize and natural tissue healing occurs
  - Treatment recommendations:
    - Soft tissue mobilization to lumbar paraspinals, anterior abdominal musculature to reduce restriction in DRA closure
    - Scar tissue mobilization (cesarean section)
    - Low impact aerobic activity (may return to aquatic exercise when cleared by obstetrician)
    - Progressive strength training while maintaining core and pelvic floor contractions
    - Curl with support
    - Bed sheet for approximating separation in supine/quadruped
    - Postural strengthening as needed

- **Weeks 12-24**
  - Goals: return to regular exercise
  - Treatment recommendations:
    - Curl up while maintaining core and pelvic floor contractions
    - Planks
    - Progressing aerobic activity (elliptical progressing to treadmill)
    - Return to activity/sport specific training
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>6 Months Postpartum

RISK FACTORS
- Avoid activities that cause urinary or fecal leakage or incontinence
- Avoid activities that cause “doming”
- Avoid exercises which cause musculoskeletal pain
- Improper body mechanics with everyday tasks (e.g., lifting/carrying, pushing stroller, etc.)

ASSESSMENT
- See above
- Suggested outcome measures:
  - Oswestry Disability Index (ODI)

TREATMENT RECOMMENDATIONS
- Goals: return to prior level of function, regular exercise, and sport specific training
- Treatment recommendations:
  - Abdominal crunch, posterior pelvic tilt, Kegels, Russian twist (with use of abdominal bracing)\(^\text{12}\)
  - Functional progression
  - Diaphragmatic breathing
  - Education on body image, avoidance of focus on “closing the gap”
  - Ensure individual components are met to return to high impact activities
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References


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