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DRA Consensus Study

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A Delphi Consensus

Step 1 – Literature Review
 Step 2 – Assemble expert panel; n=28
 Step 3 – Commence Delphi Rounds (3) – electronic survey
 Round one – 82 questions related to prevention, management and assessment of DRA through the phases of the perinatal period comprised the survey.

Participants had to answer each question using a 5-point scale to indicate their agreement with the statement (1=Strongly disagree to 5=Strongly agree). For the analysis, it was considered that a participant agreed with a statement if a "4" (agree) or a "5" (strongly agree) was answered. Simple proportion analysis was calculated for each statement, and consensus was established when there was at least 75% of agreement between respondents.

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Round One Results

21 out of the 28 invited experts completed the survey (participation rate=75 %).
 38 consensus-statements were generated, 20 of which a high percentage of agreement was achieved.

Round one results also highlighted lack of agreement (less than 55% agreement) between experts on 4 statements.
 The remaining statements of the survey (yet to generate agreement or disagreement from the participants) were explored further in round two.

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Statements related to the prenatal period

Avoid exercises that concentrically engage the superficial abdominal muscles.	83.2
Facilitate optimal co-activation of the inner unit muscles during exercises.	87.4
Promote effective tension-free diaphragmatic breathing.	82.2
Emphasize postures that reduce excessive sustained intra-abdominal pressure.	90.6
Encourage optimal elimination habits to reduce straining.	86.4

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Statements related to the early postpartum period

Avoid exercises that concentrically engage the superficial abdominal muscles.	83.2
Avoid front loaded exercises (planks, push-ups).	76.8
Avoid exercises in which continence mechanism is not maintained.	94.8
Avoid high impact exercise.	86.4
Facilitate optimal co-activation of the inner unit muscles during exercises.	87.4

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Statements related to the presence of DRA in postpartum period

Avoid exercises that cause doming or invagination of the LA.	93.6
Introduce front loaded exercises if tension through the LA is maintained.	90.0
Avoid exercises in which continence mechanism is not maintained.	87.8
Progress core training if appropriate tension through the LA is achieved.	90.0
Address contributing pelvic girdle and thoracic movement impairments.	86.6

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Statements related to the assessment of DRA	
Palpate for depth and quality of tissue integrity (LA) at rest.	76.6
Assess development of tension through the LA with voluntary pelvic floor and transverse abdominis co-contraction.	88.8
Ensure optimal pelvic floor contraction through a digital exam.	84.4
Assess for doming or invagination of LA during exercises.	82.2
A non-functional DRA is determined when tension of LA cannot be developed voluntarily.	81.2

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Statements with a lack of agreement (less than 55%)	
DRA does not appear to be related to the pelvic floor	38.4
The severity of DRA does not impact my approach	33.6
Emphasize "closing of the gap" via "Noble Technique" (head lift)	38.8
DRA is a cosmetic issue, not a functional issue	24.0

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Interpretation of Results – Round One

To our knowledge, this is the first study to establish consensus across key stakeholders to bridge the gap in both evidence and clinical practice approaches regarding pregnancy-related DRA. Findings from Phase 1 determined 38 practice statements that achieved consensus between experts, with 20 statements achieving high percentage of agreement. Further, answers to Phase 1 of this study show that there is agreement amongst experts that the tissue of the LA is intrinsic to the thoraco-pelvic abdominal manometric system. As such, they agree that compromised integrity of the LA after pregnancy needs to be considered within the context of this system when assessing and intervening for this condition. These statements will be further developed and prioritized in the next two Phases of this study to form a final list of practice principles will be both evidence-informed, and deemed to be feasible and usable. As some of these principles will corroborate with the scientific literature, and some will not, our findings will help point out important practice gaps that will require further study. The 40 statements that required further exploration in Phase 2 are also of interest, as they highlight the need for further exploration to increase understanding of these phenomenon.

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Round Two

General Preface Statement

Pregnancy-related DRA represents an important and under-recognized concern. All relevant health care and fitness providers working with pregnant women should know how to prevent, minimize and care for this condition however general agreement of what constitutes the best approach to manage this pregnancy-related DRA is lacking. Given that the complex three-dimensional tissue of the linea alba is intrinsic to the thoraco-pelvic abdominal manometric system, compromised integrity of the linea alba needs to be considered within the context of this system. As experts in women's health, we have come to understand that the impairments and dysfunctions related to DRA are multi-dimensional and multifactorial. Further, in line with other thoracic, lumbar and pelvic conditions we manage in physiotherapy, the interaction between the musculoskeletal, nervous and immune systems represents a central aspect of our global care approach, which is then individually tailored. Thus, our approach allows for the integrated targeting of modifiable drivers of DRA and associated impairments or participation restrictions across multiple dimensions. As a group we have agreed that a number of practice principles are needed when working with women where the goal is to prevent, minimize or treat pregnancy-related DRA. These practice principles have been developed with intent of guiding practice of all relevant care providers working with pregnancy-related conditions.

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Round Two – Prenatal

Preface Statement

As experts in women's health, we understand the importance of promoting health for women and their developing babies. We recognize the prenatal period as a time of transition that warrants mindfulness related to exercise and movement strategies to promote optimal physical function through the pregnancy, limit potential functional impairment and prepare for birth and post-partum recovery. As a group we have agreed on the following practice principles as they relate to prenatal care when considering DRA.

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Round Two – Intrapartum

Preface Statement

As experts in women's health, we approach **intra-partum care** from the perspective of promoting strategies that are least likely to result in impairment to the pelvic tissues or dysfunction in the thoraco-pelvic abdominal manometric system. Our perspectives are congruent with best practice guidelines for physiologic birth published by the Society of Obstetricians and Gynecologists of Canada (2008 & 2016). As a group we have agreed on the following practice principles related to intra-partum care, considered DRA within the context of global pelvic health.

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Round Two – Early Postpartum

Preface Statement

As experts in women's health and pelvic health we approach the early postpartum period, the fourth trimester, as an important time to promote optimal recovery. Movement is important through this period and should not be feared; however, the emphasis is on gentle restorative exercises that are tailored to each woman's needs. Given the incredible healing and restoration that takes place in the fourth trimester a diagnosis of DRA is reserved for after this period.

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Round Two – Established DRA

Preface Statement

As experts in women's health we approach the presence of pregnancy-related DRA from a biopsychosocial perspective, with particular attention to the thoraco-pelvic abdominal manometric system. Although movement and exercise will be modified to effectively address DRA, it is important that exercise and movement are embraced by women rather than feared. Furthermore, it is important that language emphasizing neuromuscular physiology rather than structure or "gap" is used when working with these women. An evolved understanding of restoring the integrity of the linea alba does not translate into "closing the gap", as it has been understood in the past. As such, the expert panel does not recommend using the popular "Noble Technique" or other similar forms of splinted head lifts or crunches to address the complexity of pregnancy-related DRA.

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