

# Diastasis Rectus Abdominis: physiotherapy management

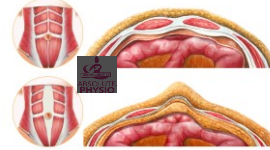
October 2018  
POGP Conference, Cardiff



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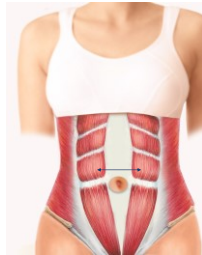
## DIASTASIS RECTUS ABDOMINIS (DRA)

Characterised by thinning and widening of the Linea Alba and associated increased laxity of the anterior abdominal wall (Mommers et al 2017)



### Assessing/diagnosing DRA

**RTUS = gold standard** (van de Water & Benjamin 2016)  
**Palpation - most practiced** (Keeler et al 2012)  
**sufficient for clinical screening**  
(Mota et al 2013; van de Water & Benjamin 2016)



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**Lack of surgical consensus** (Tadiparthi et al 2012)



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#### Method?

- Finger widths? pressure?
- Crook lying at rest?
- Crook lying on head lift? Crunch? How much?
- Sitting/standing? (Gillard et al 2018)
- Pressure of probe? (Mota et al 2013)
- Where to measure?
- When? End of exhalation? (Teyhen et al 2008)



### Is it just about the gap?

? Depth

? Function

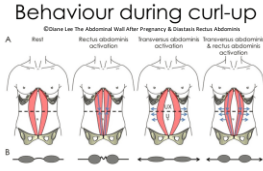


? RA muscle belly

? Biopsychosocial



How does the evidence inform our clinical reasoning?



- Controversies in the literature



How does the evidence inform our clinical reasoning?

Prevalence of diastasis recti abdominis in a urogynecological patient population

Thomas M. Nitzsche<sup>1</sup>, Fabi Che Lung<sup>2</sup>

Pelvic Floor Muscle Function, Pelvic Floor Dysfunction, and Diastasis Recti Abdominis: Prospective Cohort Study

Karl Ba<sup>1,2\*</sup>, Guenter Hilde<sup>1</sup>, Monia Kolberg Tostford<sup>1</sup>, Ines Bakken Sporstad<sup>1</sup> and Marie Ellstrom Engb<sup>3,4</sup>

Relationship between diastasis recti of the abdominal muscles (DRAM) and musculoskeletal dysfunctions, pain and quality of life: a systematic review

Denisa R. Benjamin<sup>1,2\*</sup>, Helena J. Franley<sup>3</sup>, Nora Shields<sup>4</sup>

Abdominoplasty Improves Low Back Pain and Urinary Incontinence

Tyler D. Hunter, F.R.A.C.S.(Plast.), Markin, Steven L., F.R.A.C.S.(Plast.), Sanderson, Gresh D., F.R.A.C.S.(Plast.)

- Controversies in the literature



How does the evidence inform our clinical reasoning?

**Neuromuscular Electrical Stimulation and Strength Recovery of Postnatal Diastasis Recti Abdominis Muscles**  
Delacruz Lopez, Pinar, et al. 2017

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**EFFECT OF A HIPROGRESSIVE ABDOMINAL EXERCISE PROGRAM ON INTER-RECTUS ABDOMINIS MUSCLES DISTANCE IN POSTPARTUM**  
Yemando Ramos Gómez<sup>1</sup>, Francisco José Serón-Camargo<sup>2</sup>, Álvaro Cancado-Correa<sup>3</sup>

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**Clinical and MRI changes of puborectalis and iliococcygeus after a short period of intensive pelvic floor muscles training with or without instrumentation**  
2018

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**Comparison of Trunk Muscle Function Between Women With and Without Diastasis Recti Abdominis at 1 Year Postpartum**  
Nasser F. Hills, Ryan B. Graham, Linda McQueen

- Controversies in the literature
- Research potential



Assessing 'beyond the gap'

Person Posture Patterns Respiration Ribcage Load Defect



PPP-RR-LD

Acronym:

(Preventing Pregnancy Pressure Restores Rectus Lessening Diastasis)



Story

Baseline

Expectations

(DRA negatively correlated with body image – Keshwani et al 2018)  
 (DRA negatively correlated to QoL – Benjamin et al 2018)

Management

- Listen to, discuss and manage expectations
- Problem List, goal setting



PPP-RR-LD

Person

Does DRA lead to reduced core function and non-optimal postures?

Do postures impact DRA???

Gillard et 2018 – IRD wider in upright positions

Positive correlation between "optimal" posture and a persons self-efficacy, confidence (Brihlot et al 2009) and body image (Pop, C. 2016)

Significant forward head posture increased activities of SCM muscles and anterior scalene muscles, decreasing forced vital capacity (Kang et al 2018)

Management

- Optimise posture


PPP-RR-LD

Posture




PPP-RR-LD  
**Patterns**

Holding patterns  
Recruitment patterns Ab wall  
Recruitment patterns PF




**Management:**  
breathing | posture | transfers | defecation dynamics | ADL's  
core recruitment | dispelling fear | soft tissue release

Re-evaluate: does improved co-contraction of TA/PF improve the function of the abdominal wall?





PPP-RR-LD  
**Respiration**

Diaphragm/Ab wall  
Ab wall/PF } intimately linked



Co-ordinated activation & relaxation between all 3

(Be 2004; Hodges et al 2007; Sapsford 2004; Hodges et al 2007; Lee et al 2008; Park & Han 2015; Lee 2017)




PPP-RR-LD  
**Respiration**

We can utilise the diaphragm as a "moderator of IAP"  
(Michelle Lyons, Breathe Better course - Burrell Education)

Use breathing to reconnect to TA  
(Hodges et al 2007)

**Management:**  
education | posture | recruitment strategies | soft tissue approaches  
"letting go" | belly breathing | diaphragmatic breathing  
functional breathing | conscious breathing | balloon resistance  
relaxed breathing | resisted TEE's | biofeedback




PPP-RR-LD  
**Ribcage**

Symmetry  
Flare  
Infra-sternal angle  
Ribcage Expansion and Mobility  
Thoracic mobility

**Management:**  
core recruitment strategies | breathing | muscle energy techniques  
breathing | soft tissue release | thoracic mobility | Off-load

e.g. ? Limiting over-head movements until strategies improve ~ Julie Wiebe PT



PPP-RR-LD  
**Load**


**\*\*Functional integrity of the abdominal wall\*\***

What happens during tasks requiring load transfer/stability/IAP management?  
Doming/sinking at LA? Ribs flare? Arch upper back to achieve task? Breath hold? Jaw/neck muscles?

Assess during transfers, headlift, active SLR, resisted trunk rotation in standing, cough/talk/laugh

RTUS – visualise what happens at LA


? Pelvic floor



PPP-RR-LD  
Load

*Mechanical loading provides one of the strongest stimuli to adaptation of matrix tissue and tissue healing (Kjor 2015)*

*Low collagen type I and III levels in the midline abdominal wall may be key in the development of diastasis (Blotta et al 2018)*



PPP-RR-LD  
Load

**Management:**


Modify strategies for managing IAP:

Prescribe the **maximum** safe loading exercises for the abdominal wall

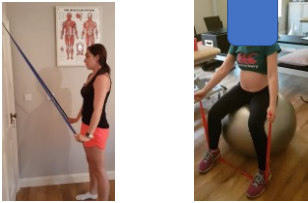

Bowel health and defecation dynamics (how we open the bowels can excessively load our connective tissue too)

Pelvic floor

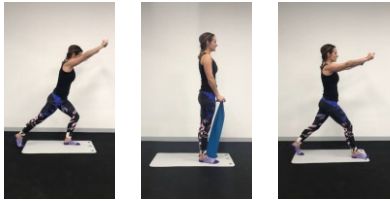

? Taping/NMES/ hypopressives



Individualised Rehab program  
Low Load



Individualised Rehab program  
Medium Load

Individualised Rehab program  
High Load




Individualised Rehab program  
Patient specific Load

PPP-RR-LD  
Defects

• Umbilical hernia?






Pathway



Elwin et al 2017:  
 "available evidence does not describe the successful treatment of rectus diastasis after a physiotherapy training programme"  
 "physiotherapy could be a useful addition to surgical intervention for DRAM, to achieve satisfying functional outcome"



Surgical Management

Surgical Management



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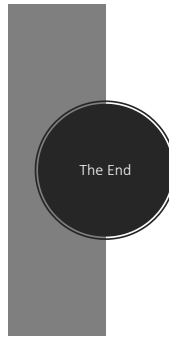
Key points

- Still a lot to investigate and understand about DRA
- Assess beyond the gap – holistic, individualised evaluation
- Evaluate rehab potential – don't just go through the motions
- Diastasis is not just cosmetic!!!!
- Push for service development to improve over all care for this population

• PPP-RR-LD

Thank you to all the wonderful clients and professionals who assisted with this presentation....





Questions?



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