Rectus Abdominis Diastasis (RAD)

Hattori Taro Kanzaki, MD The Operative Review of Surgery. 2023; 1:218-220.

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Pathophysiology and Presentation

Also Known as "Diastasis Recti", "Diastasis of Rectus Abdominis Muscle (DRAM)", "Abdominal Muscle Separation", or "Divarication of the Rectus Abdominis"

Definition

- Definition: Abnormally Wide Separation of the Rectus Abdominis Pillars ¹
- Fascia Remains Intact (Not a True Hernia)
- Separation > 2 cm is Generally Considered Abnormal Although Clinically Evident RAD May Be Present with Smaller Distances ^{2,3}
- Can Be Congenital or Acquired

Risk Factors for Acquired Diastasis ⁴⁻⁷

- Elevated Intraabdominal Pressures
 - o Pregnancy
 - Obesity
- Prior Abdominal Surgery
- Connective Tissue Disorders
- Diabetes
- Abdominal Aortic Aneurysm (AAA)

Presentation ²



- Many are Asymptomatic
- Prominent Midline Ridge Extending from the Xiphoid to Umbilicus
 - o Bulge Rises with Increased Intraabdominal Pressure (Sitting-Up or Head Lift)
- Abdominal Pain
- Not a Hernia No Risk of Incarceration or Strangulation

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Diagnosis ⁹

- Generally a Clinical Diagnosis Based on History and Physical Examination
- May Be Confused with a Ventral Hernia
 - *See Ventral Hernia
- Imaging (US, CT, or MRI) Can Be Used if Diagnosis is Uncertain, to Aid in Classification or to Guide Surgical Planning
 - Imaging Can Also Evaluate for the Coexistence of True Hernias
 - US (Preferred) or CT Can Be Used if Diagnosis Uncertain
- Multiple Classification Systems Have Been Proposed ¹⁰⁻¹²

Treatment 13,14

- Primary Treatment: Weight Loss and Abdominal Wall Strengthening/Physiotherapy
- Consider Surgical Repair for Large Symptomatic Diastasis that Fails Conservative Management

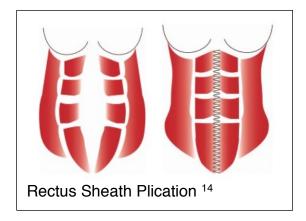
Surgical Repair 13-17

- Primary Surgical Repair is **Rectus Sheath Plication**
- Approaches:
 - Plications Can Be Single or Double Layer
 - May Consider Reinforcement with Mesh
 - Can Be Done Open or Minimally Invasive
- Can Perform a Combined Abdominoplasty for Excess Skin
- Surgical Repair Can Improve Both Pulmonary and Abdominal Wall Function
- Low Recurrence Rates Generally Reported as 0% at 6 Months

References

- 1. Diastasis Recti. Cleveland Clinic. 2022.
- 2. Akram J, Matzen SH. Rectus abdominis diastasis. J Plast Surg Hand Surg. 2014 Jun;48(3):163-9.
- 3. Keshwani N, Mathur S, McLean L. Relationship Between Interrectus Distance and Symptom Severity in Women With Diastasis Recti Abdominis in the Early Postpartum Period. Phys Ther. 2018 Mar 1;98(3):182-190.
- 4. Akram J, Matzen SH. Rectus abdominis diastasis. J Plast Surg Hand Surg. 2014 Jun;48(3):163-9.
- 5. Brauman D. Diastasis recti: clinical anatomy. Plast Reconstr Surg. 2008 Nov;122(5):1564-1569.

Kanzaki HT. Rectus Abdominis Diastasis (RAD). *The Operative Review of Surgery*. 2023; 1:218-220.



- 6. McPhail I. Abdominal aortic aneurysm and diastasis recti. Angiology. 2008 Dec-2009 Jan;59(6):736-9.
- 7. Cavalli M, Aiolfi A, Bruni PG, Manfredini L, Lombardo F, Bonfanti MT, Bona D, Campanelli G. Prevalence and risk factors for diastasis recti abdominis: a review and proposal of a new anatomical variation. Hernia. 2021 Aug;25(4):883-890.
- Cheesborough JE, Dumanian GA. Simultaneous prosthetic mesh abdominal wall reconstruction with abdominoplasty for ventral hernia and severe rectus diastasis repairs. Plast Reconstr Surg. 2015 Jan;135(1):268-276. (License: CC BY-NC-ND 3.0)
- 9. Tung RC, Towfigh S. Diagnostic techniques for diastasis recti. Hernia. 2021 Aug;25(4):915-919.
- 10. Nahas FX. An aesthetic classification of the abdomen based on the myoaponeurotic layer. Plast Reconstr Surg. 2001 Nov;108(6):1787-95; discussion 1796-7.
- 11. Keramidas E, Rodopoulou S, Gavala MI. A Proposed Classification and Treatment Algorithm for Rectus Diastasis: A Prospective Study. Aesthetic Plast Surg. 2022 Oct;46(5):2323-2332.
- 12. Reinpold W, Köckerling F, Bittner R, Conze J, Fortelny R, Koch A, Kukleta J, Kuthe A, Lorenz R, Stechemesser B. Classification of Rectus Diastasis-A Proposal by the German Hernia Society (DHG) and the International Endohernia Society (IEHS). Front Surg. 2019 Jan 28;6:1.
- 13. Mommers EHH, Ponten JEH, Al Omar AK, de Vries Reilingh TS, Bouvy ND, Nienhuijs SW. The general surgeon's perspective of rectus diastasis. A systematic review of treatment options. Surg Endosc. 2017 Dec;31(12):4934-4949.
- 14. Jessen ML, Öberg S, Rosenberg J. Treatment Options for Abdominal Rectus Diastasis. Front Surg. 2019 Nov 19;6:65. (License: CC BY)
- 15. Emanuelsson P, Gunnarsson U, Strigard K, Stark B. Early complications, pain, and quality of life after reconstructive surgery for abdominal rectus muscle diastasis: a 3-month follow-up. J Plast Reconstr Aesthetic Surg. (2014) 67:1082–8.
- 16. Nahas FX, Augusto SM, Ghelfond C. Nylon versus polydioxanone in the correction of rectus diastasis. Plast Reconstr Surg. (2001) 107:700–6.
- 17. Birdsell DC, Gavelin GE, Kemsley GM. "Staying power"–absorbable vs. nonabsorbable. Plast Reconstr Surg. (1981) 68:742–5.