



# Diagnosing Dyssynergic Defecation with the Digital Rectal Exam: The New Digital Revolution?

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Received: 17 November 2023 / Accepted: 7 December 2023 / Published online: 3 January 2024  
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The digital rectal exam (DRE) is a component of the physical exam, with utility in the assessment of GI bleeding [1], the evaluation of sensory neurologic deficits [2], the early detection of prostate [3] or anal cancer [4], and the evaluation of anorectal motor disorders, including incontinence and dyssynergic defecation [5] (Table 1). Despite this, particularly in the era of focused physical exams, the rectal exam is often neglected due to patient or provider discomfort [5, 6].

The prevalence of chronic constipation is estimated at 20% of the general population [7], a number that increases with age. Pelvic floor dysfunction is the reason for 37% of referrals for chronic constipation to tertiary care centers [8] and the focus of up to 44% of patients with constipation reported in literature [9], with anorectal manometry (ARM) serving as the ‘gold standard’ diagnostic test [10]. The diagnostic accuracy of DRE for fecal incontinence is variable; sensitivities of up to 90% have been reported with a specificity of 28% [11]. Contrariwise, the diagnostic accuracy of the DRE for dyssynergic defecation is much higher, with a reported sensitivities and specificities of 75 and 87%, respectively, and positive predictive value of 97% [12, 13].

Despite these observations, 17% of medical students in a survey reported they had never performed a rectal exam [14]; even among practicing providers, only 31% report being “completely comfortable” with performing a DRE [15]. Those less comfortable performing rectal exams were more likely to cite patient-related reasons such as modesty or anticipated refusal for deferring the exam. The number of DREs performed was directly related to provider confidence in making a diagnosis of the majority of conditions studied, suggesting, as with most physical examinations, that experience is key to ensuring both provider and patient comfort

and confidence [15]. The rate of utilization of DRE in the setting of suspected dyssynergic defecation prior to anorectal manometry has not been previously reported systematically.

In this issue of *Digestive Diseases and Sciences*, Menand et al. [16] evaluate two primary questions: whether a digital rectal exam was performed prior to ARM, and the diagnostic accuracy of these evaluations. This retrospective study evaluated 142 consecutive adult patients who underwent ARM for complaints of chronic constipation, reporting that only 42.3% ( $n = 60$ ), had a documented DRE prior to ARM referral. Although gastroenterologists accounted for the greatest number of DREs performed, they were also more likely to refer patients without prior DRE. Patients who were referred from gastroenterologists without prior digital rectal exam were not more likely to have positive anorectal manometry findings, suggesting that the rectal exam was not deferred due to a high predicted likelihood of positive ARM based on history alone. Interestingly, the authors reported that DRE performed by non-GI internal medicine specialists had a sensitivity of 0.0% for detecting dyssynergia. DRE performed by practicing gastroenterologists had a sensitivity of 82.6% with GI fellows and advanced practice providers trailing at 60.0% and 50.0%, respectively, corroborating published data suggesting that experience is key in improving this examination technique.

Reasons for underutilization of the rectal exam include both provider discomfort and perceived discomfort to the patient [5]. Particularly in the setting of pelvic floor dysfunction, patients often have comorbid history of sexual trauma or chronic pain syndromes that increases the barriers providers must overcome to perform a DRE. Given its high sensitivity for pelvic floor dysfunction and other conditions, low cost, and accessibility, more effort needs to be made to comprehensively teach DRE to medical students, GI trainees, and primary providers to improve provider and patient comfort and confidence for this highly useful component of the physical examination for the diagnosis of anorectal motility disorders. In the case of the DRE, experience,

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**Table 1** Performance characteristics of rectal exam findings for diagnosis of various conditions

Condition	Exam finding	Sensitivity	Specificity	Likelihood ratio
Upper GI bleeding [1]	Melena			25 (95% CI 4–174)*
Cauda Equina Syndrome [2]	Rectal tone	80%	86%	
	Perineal sensation	60%	68%	
Prostate Cancer [3]	Prostate palpation	28.6%	90.7%	
Anal Cancer [4]	Visible lesion/palpation	Insufficient data		
Fecal Incontinence [17]	Sphincter resting and squeeze tone	90%	28%	
Dyssynergic Defecation [9, 12]	Anal canal and puborectalis movement on simulated evacuation	75–83.2%	87%	

\*Finding of melena for upper GI bleed diagnosis

with proper guidance, can move the needle from acceptable towards perfect.

**References**

1. Simel DL, Rennie D. Upper gastrointestinal bleed. In: The Rational Clinical Examination: Evidence-Based Clinical Diagnosis. New York: McGraw-Hill Education, 2016.
2. Zusman NL, Radoslovich SS, Smith SJ, Tanski M, Gundle KR, Yoo JU. Physical examination is predictive of cauda equina syndrome: MRI to rule out diagnosis is unnecessary. *Global Spine J* 2022;12:209–214.
3. Jones D, Friend C, Dreher A, Allgar V, Macleod U. The diagnostic test accuracy of rectal examination for prostate cancer diagnosis in symptomatic patients: a systematic review. *BMC Fam Pract* 2018;19:79.
4. Nyitray AG, D'Souza G, Stier EA, Clifford G, Chiao EY. The utility of digital anal rectal examinations in a public health screening program for anal cancer. *J Low Genit Tract Dis* 2020;24:192–196.
5. Rao SSC. Rectal Exam: yes, it can and should be done in a busy practice! *Am J Gastroenterol* 2018;113:635–638.
6. Villanueva Herrero JA, Abdussalam A, Kasi A. *Rectal Exam*. Treasure Island: StatPearls; 2023.
7. Bharucha AE, Pemberton JH, Locke GR III. American Gastroenterological Association technical review on constipation. *Gastroenterology* 2013;144:218–238.
8. Surrenti E, Rath DM, Pemberton JH, Camilleri M. Audit of constipation in a tertiary referral gastroenterology practice. *Am J Gastroenterol* 1995;90:1471–1475.
9. Brandler J, Camilleri M. Pretest and post-test probabilities of diagnoses of rectal evacuation disorders based on symptoms, rectal exam, and basic tests: a systematic review. *Clin Gastroenterol Hepatol* 2020;18:2479–2490.
10. Diamant NE, Kamm MA, Wald A, Whitehead WE. AGA technical review on anorectal testing techniques. *Gastroenterology* 1999;116:735–760.
11. Soh JS, Lee HJ, Jung KW, Yoon IJ, Koo HS, Seo SY, Lee S, Bae JH, Lee HS, Park SH, Yang DH, Kim KJ, Ye BD, Byeon JS, Yang SK, Kim JH, Myung SJ. The diagnostic value of a digital rectal examination compared with high-resolution anorectal manometry in patients with chronic constipation and fecal incontinence. *Am J Gastroenterol* 2015;110:1197–1204.
12. Tantiphlachiva K, Rao P, Attaluri A, Rao SS. Digital rectal examination is a useful tool for identifying patients with dyssynergia. *Clin Gastroenterol Hepatol* 2010;8:955–960.
13. Chedid V, Vijayvargiya P, Halawi H, Park SY, Camilleri M. Audit of the diagnosis of rectal evacuation disorders in chronic constipation. *Neurogastroenterol Motil* 2019;31:e13510.
14. Lawrentschuk N, Bolton DM. Experience and attitudes of final-year medical students to digital rectal examination. *Med J Aust* 2004;181:323–325.
15. Wong RK, Drossman DA, Bharucha AE, Rao SS, Wald A, Morris CB, Oxentenko AS, Ravi K, Van Handel DM, Edwards H, Hu Y, Bangdiwala S. The digital rectal examination: a multicenter survey of physicians' and students' perceptions and practice patterns. *Am J Gastroenterol* 2012;107:1157–1163.
16. Menand JA, Sandhu R, Israel Y, Reford E, Zafar A, Singh P, Cavaliere K, Saleh J, Smith MS, Jodorkovsky D, Luo Y. Digital rectal exams are infrequently performed prior to anorectal manometry. *Dig Dis Sci*. 2023. <https://doi.org/10.1007/s10620-023-08243-2>.
17. Coura MM, Silva SM, Almeida RM, Forrest MC, Sousa JB. Is digital rectal exam reliable in grading anal sphincter defects? *Arg Gastroenterol* 2016;53:240–245.

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