The Digital Rectal Examination

Appropriate Techniques for the Evaluation of Constipation and Fecal Incontinence

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KEYWORDS

• Digital rectal examination • Physical examination • Anal sphincter
• Fecal incontinence • Constipation • Defecation • Dyssynergic defecation
• Functional defecation disorder

KEY POINTS

- The performance of a digital rectal examination (DRE) provides valuable information regarding anal sphincter tone, anatomic issues with the anorectum, and the physiology of the defecatory mechanism in health and in the symptomatic individual.
- There are several obstacles that have led to the underutilization of DRE in practice, including inadequate training, lack of physician comfort and confidence in performing the examination, concerns about patient comfort, and some conflicting literature regarding the value of DRE.
- DRE is particularly useful in evaluating patients with complaints relating to constipation (ie, functional defecation disorders) and fecal incontinence.
- A DRE protocol requires training and practice, but it can easily be mastered and lead to meaningful reductions in reliance on additional testing to make a diagnosis in patients with defecatory issues.
- Experienced practitioners can achieve a diagnostic accuracy comparable to that of a formal anorectal manometry and balloon expulsion protocol, particularly in patients with pelvic floor dyssynergia.

INTRODUCTION

The digital rectal examination (DRE) is an essential component of the complete physical examination of the gastrointestinal (GI) tract. DRE can provide valuable diagnostic information to the practitioner in certain clinical scenarios, including GI bleeding and particularly with disorders of defecation, such as constipation and fecal incontinence

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(FI). The performance of this straightforward evaluation yields a wealth of information beyond an assessment of anal sphincter tone and the contents of the rectal vault. A perianal inspection and DRE hold the potential to make diagnoses of anal and rectal malignancies, structural abnormalities such as hemorrhoids, fissures or fistulas, infections including condyloma acuminata ("anal warts") or perianal abscesses, detect the presence of blood, and even provide diagnostic clues regarding neuromuscular conditions. Yet, the value of this test is dependent on the training and experience of the clinician. For a variety of reasons, even gastroenterology providers often neglect to perform a DRE when clinically indicated. Unfortunately, deferral of a DRE in some cases may result in unnecessary, additional diagnostic testing and health care utilization, and even more importantly, delays in diagnosis, continued symptoms, and misguided therapeutic trials. This review will discuss the considerations and proper steps in the performance of the DRE, with a particular focus on patient complaints of constipation or FI, and it will summarize the data supporting the value of this examination in patients presenting with these defecatory disorders.

OBSTACLES TO PERFORMING DRE

Insufficient DRE Training in Medical Education

One major obstacle to the confident performance of a competent DRE is a lack of instruction and supervision in the performance of this examination while in training. A survey of Australian fourth-year medical students indicated that the vast majority regarded the DRE to be an essential skill for medical practitioners, and one that should be mastered before graduation.[1] Yet, the median number of rectal examinations conducted while in training by the students was 2, with nearly 1 in 5 students reporting that they had never performed a DRE. Hence only one-half of the students felt confident that they could perform a reasonable DRE. Another study of nearly 400 Irish medical students in their final year of training across 5 medical schools revealed that one-fourth of the medical students had no experience in performing a DRE, with an additional 20% indicating only having completed the maneuver on practice mannequins.[2] Of the 56% of the respondents who endorsed some experience with DRE, one-third of these students reported a lack of confidence in their ability to perform and interpret this examination. A survey of US physicians found that 93% reported DRE training in medical school, yet over one-fourth of these same individuals indicated that experience was "very little," or "not at all" sufficient.[3] Collectively, these data portray clear deficiencies in the adequacy of medical school training in DRE.

Lack of Physician Comfort and Confidence in Performing DRE

Inefficiencies and inexperience in training may result in many practitioners feeling uncomfortable with the performance of DREs. In the previously noted survey of US physicians, several other reasons for not performing DRE evaluations were cited, including concern for the modesty of the patient (43.8%), the perceived invasiveness of the evaluation (39.6%), and a deferral of the examination during the clinic visit due to a planned future colonoscopy (35.6%).[3] This indicates that DRE often is either not performed, or at a minimum is underutilized in the evaluation of patients with defecatory disorders.[4] Interestingly, junior physicians more often cited these concerns as reasons to defer the performance of a rectal examination.[4] However, the hesitancy on behalf of practitioners to perform DRE is not matched by patient refusal of the examination. The physician survey indicated that fewer than 10% of patients decline DRE when recommended, and that this patient deferral correlates with physician specialty (gastroenterologists < primary care) and physician experience (senior < junior).[4] In

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fact, patients are willing to undergo DRE, and when it is not performed were indicated, patients notice: a survey administered in the waiting room of a primary care clinic to over 400 patients found that 91% of patients "would have allowed" a rectal examination to be performed, and 56% thought DRE "should have been done by a reasonable health care provider", yet DRE was actually completed on only 16% of these respondents.[5]

Deferral of DRE to Future Testing

An oft-cited rationale for foregoing DRE evaluation in the office is the plan for additional imaging, manometric, and/or colonoscopic assessment of the patient's defecatory issue. There are, however, several shortcomings to this approach. Although anorectal manometry, defecography, and colonoscopy are all reasonable studies for the evaluation of FI and functional defecation disorders, and might indeed provide similar information as a DRE, some patients may ultimately cancel or not follow-through on recommendations for these tests leading to missed, or at a minimum, unnecessary delays in diagnosis.[6] Furthermore, the protocols of some of these studies include the use of a bowel preparation or enema, which might result in the loss of potentially valuable information and clinical clues—the content and texture of stool in the rectal vault, for example. Lastly, a rectal examination during colonoscopy is often performed in parallel with the administration of sedation. This may not only affect sphincter tone but also compromise the patient's ability to participate in the functional components (bear down and squeeze maneuvers) of the DRE.

Publications Calling into Question the Clinical Value of DRE

The DRE has been disparaged in the literature as an "unpleasant, invasive," and "useless examination," representing "flimsy thinking and bad medicine" on behalf of the provider.[7] However, this limited view in part comes from the perspective of general practitioners, with an interest in examination of the prostate and colon cancer screening (where admittedly the value of DRE is somewhat uncertain), rather than the more sophisticated pursuit of the DRE with functional maneuvers to evaluate disorders of defecation. It is generally agreed upon that performance of fecal occult blood testing on a DRE specimen is of little value given the higher potential for false-positive results.[8] It has also been suggested that symptom scales are necessary for the clinical assessment of defecation disorders, particularly FI, as the DRE is neither sufficient for evaluating the severity of defects in continence mechanisms, nor accurate in predicting response to therapy.[9]

In pediatric populations, the 2014 North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESGHAN) evidence-based recommendations for the evaluation and treatment of functional constipation concluded that "evidence does not support the use of digital rectal examination to diagnose functional constipation"[10] based on a single study assessing the ability of DRE to discriminate between radiographically constipated and nonconstipated children. In this study, DRE demonstrated a sensitivity of 77%, and a specificity of only 35%, yielding a likelihood ratio of 1.2 (95% confidence interval [CI], 1.0 to 1.4).[11] However experts have argued that this pediatric population did not reflect the broader pediatric GI population, that the DRE methodology used did not apply the more sophisticated application of this examination, and that the assessment of DRE application did not consider the detection of other conditions in the differential diagnosis.[6]

Underutilization of the DRE

As a result of these challenges and obstacles to the performance of DRE, it should come with little surprise that this examination is often neglected by practitioners, even at top

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academic institutions. A survey of nearly 200 medical students and over 400 clinicians (including 128 adult gastroenterology faculty or fellows) across 4 United States medical schools found that these clinicians self-reported having performed only a median of 10 DRE examinations in the prior year, with much higher utilization of this technique reported by more experienced and specialized physicians.[3] Indeed, over 500 annual DREs were reported by 10 gastroenterologists, and GI physicians in this cohort performed 10 times the number of DRE evaluations compared with their internist counterparts. Physicians who have graduated within the past 4 years reported performing an average of 29 DREs per year, whereas those who have been in practice for more than 20 years indicated that they performed 4 times this number.[3] These data strongly suggest that the DRE may represent a "dying art," particularly among general practices, again underscoring the importance of adequate training and supervision in the performance of this examination as an early, formative experience for medical trainees.

PERFORMING A PROPER DRE

"By far your greatest aide will be the finger. The majority of diseases which affect the rectum can be made out by the educated finger."
Joseph M. Mathews, M.D., A Treatise on Diseases of the Rectum, Anus, and Sigmoid Flexure, 1897[12]

The benefits of a properly performed rectal examination in the evaluation of defecatory disorders, including constipation and FI, have been appreciated for many decades. The aforementioned data regarding DRE training, and our anecdotal experience with GI trainees suggest it is worthwhile to review, in detail, the steps necessary to perform an appropriate DRE.

Anatomic Considerations

Pertinent anatomy evaluated during a DRE includes the terminal segment of large bowel, or rectum, which is positioned along the sacrum and estimated to be approximately 12 to 15 cm in length, the anal sphincters, which are 3 to 4 cm in length and composed of voluntary, external skeletal sphincter muscle and internal, involuntary smooth muscle (the latter responsible for the majority of the resting anal sphincter tone), and the levator ani muscle group composed of the pubococcygeus, iliococcygeus, and puborectalis muscles.[13] A very elegant study by Joguet and colleagues describes the pelvic anatomy relevant to DRE based on a cadaveric study, and moreover describes average measurements of the index finger in an adult male and female cohort, noting their fingers to be of sufficient length to palpate all of the anatomic landmarks of interest.[14] The anatomy and physiology essential to pelvic floor function is described in full detail in the Ravinder K. Mittal and Lori J. Tuttle ' article, "Anorectal Anatomy and Function," in this issue.

Contraindications

It has been suggested that the only absolute contraindication to the performance of a DRE is that the practitioner "has lost all of his or her fingers"![15] Relative contraindications of note, however, include patients who are acutely ill or immunosuppressed (particularly with neutropenia), the latter due to potential for development of perianal abscesses or sepsis due to bacterial seeding.[16] Other considerations wherein the risk-benefit of DRE must be assessed include patients who have recently undergone anorectal surgery, have experienced rectal trauma, have known anal or distal rectal strictures, stenoses, or ulcerations, or have evidence of thrombocytopenia or other coagulopathies. Patients reporting severe anal pain upon initiation of the rectal

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examination may be better served by an examination under anesthesia to identify the source of symptoms.

A Stepwise Approach to DRE

Preparing for the DRE

The first step in performing a DRE is the preparation of the patient for the examination. This includes a discussion of the indication for the evaluation and a description of the steps involved in the process. It is important to acknowledge that there may be some minor discomfort or a sense of urgency.[6] It is also helpful to reassure the patient that the majority tolerate the procedure very well, while also encouraging the patient to be forthcoming if the examination becomes exceedingly uncomfortable. A nearby bathroom is advisable, and we ask patients whether they feel the need to use the facilities before proceeding.

Next in the periprocedure planning is the gathering of necessary supplies including examination gloves, water-soluble lubrication, viscous lidocaine or lidocaine jelly (if a painful condition such as hemorrhoids or an anal fissure is anticipated), accessory lighting for adequate visualization, facial tissues, cotton swabs, a patient gown, and sheets for patient draping. It is suggested that all the examination rooms routinely used for DRE be routinely stocked with these supplies. It is also important to have a room with an appropriate examination table and a curtain for privacy. We perform all DRE evaluations in the presence of a nurse chaperone.

Patient positioning for DRE

Patients should change into an examination gown without removing their undergarments. Left lateral decubitus positioning is recommended, and the study is best performed with the buttocks shifted to the edge of the examination table and the knees and hips flexed and drawn toward the chest. Having patients stand and lean forward over a raised table on their elbows is a position sometimes implemented by urologists and primary care physicians for an examination of the prostate, but it is suboptimal for assessing defecatory disorders. Furthermore, some patients may experience premonitory symptoms or frank vasovagal syncope during the examination, placing them at risk of falling and injuring themselves. We generally have the nurse chaperone position at the head of the examination table to offer reassurance and support the patient through the examination.

Inspection and external maneuvers

The patient is asked to lower their undergarments, allowing an opportunity to subtly inspect for evidence of fecal or urinary seepage or soiling. Thereafter, a careful visual inspection of the perineal and perianal areas is useful to evaluate for anatomic clues relating to the patient's defecatory complaints. The presence of leaked stool, skin erythema, and/or excoriation/maceration may be indicators of fecal seepage or excessive wiping. Other important findings include anal fissures or fistulae, external hemorrhoids, skin tags, scars, perianal abscesses, condylomata acuminata ("anal warts"), or anal neoplasm.

Next, the patient is informed that an examination of the anal area and palpation of the anus and surrounding tissue will be conducted to assess for appreciable tenderness or fluctuance. A Valsalva-like maneuver is conducted wherein the patient is asked to "bear down." The nondominant examining hand can be placed on the abdominal wall anteriorly during this maneuver to determine whether the patient is using excessive abdominal effort in the generation of "push pressure." This maneuver may reveal prolapse of internal hemorrhoids, seepage of stool, or provoke a gaping or patulous anus. Perineal descent, normally around 2 to 3 cm, should also be

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evident.[17,18] Occasionally this maneuver will precipitate rectal procidentia ("prolapse") with the appearance of a deeper red "mass" descending through the anal verge. Complete (full thickness) rectal procidentia results from the protrusion of all of the rectal layers through the anus, appearing as concentric rings of rectal mucosa. Partial (mucosal) procidentia involves prolapse of only rectal mucosa. Rectal prolapse is more commonly associated with FI, but it can also present as a consequence of straining or act as an anatomic outlet obstruction in association with constipation.

Finally, anocutaneous reflex ("anal wink") testing is performed to determine whether sacral spinal nerve (S2-S5) reflex pathways are intact. Stroking the perineum/perianal area lightly in a 4-quadrant fashion using a cotton swab should lead to involuntary, reflexive contraction of the external anal sphincter.[15] If the cotton tip fails to elicit a sensory response and/or reflex, the test can be repeated with the stick end of the swab. This reflex may be less robust under normal circumstances, but the complete absence of any response is an indication for further, more detailed neurologic evaluation.

Internal maneuvers

Successful completion of an internal examination is predicated on facilitating patient relaxation and comfort. It is essential to detail each step in a relaxed, succinct fashion before initiating each maneuver. Note that the particular order in which internal maneuvers are completed varies by practitioner and no standard protocol has been established. Insertion of the practitioner's index finger (usually of the dominant hand) across the anal sphincter and into the rectum is preceded by application of water-soluble lubrication along the length of the finger. Gentle massage of the posterior ("6 o'clock") margin of the anus with the fingertip will induce relaxation of the anal sphincter, facilitating introduction of the examiner's finger, angled slightly posteriorly, across the anal canal into the rectum. Ideally, the finger should be positioned across the entire length of the anal sphincter (approximately 4 cm), which for most examiners will be at the level just beyond their proximal interphalangeal joint. If a great deal of resistance is met, or in the case of smaller pediatric patients, the fifth ("pinky") finger can be used for this initial portion of the examination. If the patient experiences minor pain, viscous lidocaine can be applied, and the examination should be paused for several minutes to allow it to take effect. If, however, the pain is more extreme, this may be indicative of a deeper anal fissure, which was not identified during the external inspection. In this instance, the examination should be aborted and further investigation via an examination under anesthesia is warranted.

Once the patient is relaxed and has accommodated to the examination, one can gauge resting anal sphincter tone. Resting tone has an important role in the maintenance of fecal continence, with the majority of this tone contributed by the internal anal sphincter.[19] Low resting anal sphincter tone may indicate prior sphincter injury with increased risk of FI, whereas higher resting tone may be indicative of anal hypertension and an anatomic outlet obstruction.[20] Once the resting tone has been established, squeeze maneuvers are pursued. Healthy individuals should be able to demonstrate an increase in external anal sphincter tone and contraction of the puborectalis muscle. Individuals with functional defecation disorders may exhibit an exceedingly robust squeeze, whereas FI patients may have minimal ability to recruit additional musculature. A cough maneuver is another means by which one can assess involuntary squeeze of the anal sphincter complex.

Once these initial studies are completed, the examining finger should palpate the distal most margins of the rectum, noting the presence of hemorrhoids or masses. It is subsequently advanced an additional 2 to 3 cm and rotated to the 12-o'clock position. This allows for palpation of the anterior portion of the rectum where detection of

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a bulge may indicate the presence of a rectocele. It also allows for palpation of the prostate in men, and the cervix in women. The levator ani muscles should also be assessed as tenderness with traction (especially on the left side) may be indicative of chronic proctalgia or more specifically levator ani syndrome.[21]

Careful attention to the texture of stool in the rectal vault is also essential. In more overt cases of fecal impaction, the presence of a hard scybalous mass (ie, "stool ball") may be apparent. Nonimpacted hard stools (eg, Bristol 1 and 2) are also informative and could factor into the development of "overflow" diarrhea. Even patients with textures in the normal range of the Bristol Stool Form Scale (Bristol 3–5) may experience a functional defecation disorder, particularly if the patient endorses straining to pass softer stools. The presence of loose, watery stool in a patient with FI provides a clinical clue that diarrhea may be the precipitant.

Finally, the function of the pelvic floor unit as a whole can be tested by asking the patient to bear down and attempt to "push out the finger." Under normal circumstances, relaxation of the anal sphincter should be easily discerned and, if the patient generates enough pressure, the finger may be expelled. Appropriate descent of the perineum can also be detected. Paradoxic contraction or failure to relax the anal sphincter and/or puborectalis muscles may be detected in the setting of functional defecation disorders. The tip of the examining finger can be used to discern relaxation of the puborectalis under normal circumstances. Here again, the dyssynergia patient may exhibit further contraction of the puborectalis with a push maneuver, palpable as a "pulling" of the fingertip anteriorly and superiorly.

If there is any concern that the patient did not understand these instructions, we will attempt to repeat any of the maneuvers. Upon completion of these evaluations, the examining finger is withdrawn and the stool on the glove is assessed for the presence of blood or mucus. Performance of fecal occult testing is discouraged because of the potential for false-positive results.[8] Return of anal sphincter tone following withdrawal of the finger should be almost immediate. The appearance of a patulous anus or slow return of tone may be indicative of a sphincter injury or neurologic issue. Facial tissue should be used to remove excess lubrication or externalized stool before the patient is directed to a private setting (ideally a bathroom) to address any hygiene or toileting needs and return to their street clothes. A summary of these maneuvers as well as characteristic findings in patients with FI and functional defecation disorders are provided in **Table 1**. More detailed technical descriptions of the DRE plus video training are provided by Ylitalo and colleagues[21] and Talley and colleagues[15]

Special Patient Populations

Pediatric patients

Though not without controversy, most experts agree that the DRE can be of considerable diagnostic utility in pediatric patients—in particular, those with reported FI or constipation. However, DREs may be deferred by providers to an even greater degree in this patient population.[6,16] A survey of children's hospital patients and their parents revealed that over 75% of children with chronic constipation were referred to a gastroenterologist without the performance of a rectal examination. Indeed, over half of these children were found to have fecal impaction upon completion of DRE.[22] As in all cases, the performance of a DRE should be justified based on its potential diagnostic value. Most of the same technical considerations relevant to DRE in the adult patient also are applicable to this younger population. Depending on the age of the patient, the use of the fifth finger, rather than the index finger, may be necessary to minimize discomfort. There are some additional concerns relating to the potential for psychologically traumatic experiences in pediatric patients. For a very nice review

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Table 1
DRE maneuvers and expected findings in healthy individuals and those with defecatory disorders

DRE Component/ Maneuver	Expected findings (Normal)	Potential findings in Functional Defecation Disorders	Potential findings in fecal incontinence
Inspection of perineum/perianal area	Healthy skin, good anal tone, hemorrhoids, no soiling of perineum/undergarments	External hemorrhoids, skin tags, anal fissure; normal anal tone; no soiling (minor if prolapsing internal hemorrhoids or overflow diarrhea)	Erythema, excoriation, maceration of skin; fecal soiling/seepage; visually patulous anus
Palpation of anus/perineum	Unremarkable, without pain or fluctuance	Normal, pain if fissure, thrombosed hemorrhoid, or perianal abscess	Usually normal
Anocutaneous reflex	Good sensation and "anal wink" (can be weak and still regarded as normal)	Normal	Normal in most cases; decreased sensation/"wink" if neurologic etiology (diabetes, pudendal neuropathy, Parkinson's, spinal cord compression/injury)
Assessment of resting anal tone	Mild resistance to passage of distal phalange of finger, no pain	Normal, or increased resistance to passage of finger; mild pain with hemorrhoids, extreme pain with fissure	Normal, or decreased resistance to passage of finger (weak)
Palpation of rectum	No findings, internal hemorrhoids	Normal or harder stool content (Bristol 1–5), internal hemorrhoids, rectocele	
Palpation of levator ani	No tenderness	Normal, tenderness if levator ani syndrome/proctalgia fugax	Normal
Push/bear down maneuver	Relaxed abdomen, appropriate lower abdomen tone, anal sphincter and puborectalis relaxation, good (2-3 cm) perineal descent	Breath hold, strain with excess abdominal tension, anal sphincter and/or puborectalis contraction ("pulling of fingertip") or lack of relaxation, excess perineal descent (>4 cm), rare rectal prolapse	Normal or discoordinated push, excess anal sphincter relaxation, minimal (<1 cm) perineal descent, rectal prolapse

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Squeeze maneuver	Increased anal/puborectalis tone	Excess anal/puborectalis tone	Minimal increase in anal/puborectalis tone with neuropathy; compensatory strong contraction of external sphincter/puborectalis with internal sphincter injury
Post-DRE inspection	Normal	Normal	Patulous/gaping anus

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of special considerations relating to pediatric DRE, please see the review by Orenstein and Wald.[6]

Elderly and chronically ill patients

Older, frail, and chronically ill patients are more susceptible to the development of FI and constipation, including fecal impaction. Such patients generally are less mobile and tend to be prescribed greater numbers of medications. The performance of a DRE may provide sufficient insights into defecatory disorders in this population, thereby precluding the need for more disruptive and invasive testing. Elderly patients may be more susceptible to local trauma with DRE; thus, a particularly gentle approach is warranted. Similarly, these patients may be more likely to suffer from musculoskeletal pain, making left lateral decubitus positioning uncomfortable. The clinician should be sensitive to these considerations and adjust the positioning and approach accordingly. Despite the potential benefit of DRE as a readily accessible, bedside diagnostic tool in this special population, one study of over 160 tertiary, referral palliative care inpatients disappointingly observed that only 4% of these patients had a DRE recorded in their chart (with scant details about the examination findings) in spite of the fact that over 40% of the included individuals had constipation, diarrhea, or incontinence listed as an active medical problem.[23]

DIAGNOSTIC PERFORMANCE OF DRE

Several studies have been conducted to examine the diagnostic yield of DRE, compared to manometric evaluation as the gold standard. In a large study of over 200 constipated patients by Tantiphlachiva and colleagues,[4] 87% of these individuals were found to have dyssynergic defecation based on standard manometric criteria.[24] 73% of these same individuals were found to have a dyssynergia phenotype on DRE. This yielded a good sensitivity (75%) and specificity (87%) for DRE, with an overall positive predictive value of 97% suggesting DRE to be a robust bedside test for the detection of dyssynergic defecation. DRE was also very accurate in detecting normal anal resting tone (86%), squeeze pressure (88%), and impairments in anal sphincter relaxation, that is, "paradoxic contraction" (82%). DRE performed less robustly for detecting reduced resting anal tone (15%) or squeeze pressures (52%) when compared with manometry. It is worth noting that the rectal examinations performed in this study were performed by "a single expert with extensive experience in evaluating patients with constipation and pelvic floor disorders." Whether these results are replicable among general internists or less experienced gastroenterologists requires further study.

An older study comparing DRE to anal sphincter manometry among a cohort of fecally incontinent patients and healthy controls identified good correlations between basal anal sphincter assessment on DRE and manometry ($r = 0.56$, $P < .001$) and squeeze scores on the DRE compared with manometric assessments of maximal squeeze pressure ($r = 0.72$, $P < .001$), with similar separation of the continent control and incontinent patients using DRE evaluation or manometry.[25]

A Korean study evaluating a large cohort of patients with chronic constipation (n = 268; 77.2% with dyssynergia via abnormal high-resolution anorectal manometry [HRAM]/balloon expulsion testing) or FI (n = 41) found DRE to have good sensitivity (93.2%), specificity (58.7%), and positive predictive value (91.0%) for dyssynergia using manometry as the gold standard.[26] This led to moderate diagnostic agreement between DRE and HRAM ($K = 0.542$, $P < .001$). In the FI subset, moderate agreement was detected between anal squeeze pressure measurements on DRE and HRAM ($K = 0.418$, $P = .006$), but similar to the findings in the Tantiphlachiva study,[4] there was poorer agreement in the two testing methods with regard to anal tone at rest.

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Experience with the performance of DRE improves accuracy: in a study of 36 patients with FI or chronic constipation, very high agreements in squeeze and resting anal pressures were detected between ARM and DREs performed by experienced colorectal surgeons (K = 0.96 and 0.7, respectively), whereas junior colorectal surgeon ARM-DRE agreement was considerably lower (K = 0.52 for each measure).[27] Another study reported the results of a DRE examination of FI patients by a single experienced physician and found that DRE findings were concordant with ARM evaluations of anal sphincter pressure. Moreover, the features detected on digital examination correlated with clinical presentations (ie, urge incontinence of feces).[28] Certain clinical scenarios may challenge the diagnostic accuracy of DRE, including the presence of chronic anal fissures. In this setting, one study found that DRE appeared to adequately identify patients with high resting sphincter pressures (sensitivity of 93%) but performed poorly in determining those individuals with low or normal sphincter pressures (specificity of only 16%) yielding a positive predictive value of merely 40% in chronic fissure patients.[29] Also, although DRE performs reasonably well at assessing internal and external anal sphincter function, it is less sensitive to the determination of possible external anal sphincter defects.[30]

Finally, attempts have been made to implement scoring systems for more objective quantification of anal sphincter tone during the DRE. One such approach, the Digital Rectal Examination Scoring System (DRESS), applies a 0 to 5 scoring (3 = normal) to anal tone at rest and with squeeze. A strong positive correlation between the DRESS values and manometry pressures was established (coefficients of 0.82 for resting pressure and 0.81 for squeeze pressure).[31]

SUMMARY

DRE provides reasonably accurate assessments of anal sphincter tone and defecatory function in individuals with FI and functional defecation disorders.[32] In addition, physiologic and structural testing (anorectal manometry, rectal sensation and compliance evaluation, endoanal ultrasound, pudendal nerve terminal motor latency, pelvic magnetic resonance imaging, and anal sphincter electromyography) provides additional, complementary objective information.[18,33] Such additional testing may be useful in determining appropriate therapeutic interventions.

A major obstacle to clinician confidence is the lack of sufficient education and hands-on experience received during medical training. Formal DRE educational programs have been described including the practice of DRE maneuvers on simulated models and the performance of DREs on dedicated rectal teaching associates. These strategies appear to be effective at enhancing global DRE skills on objective structured clinical examinations and enhancing learner confidence in the examination.[34,35] Furthermore, it has been demonstrated that DRE education modules have a direct impact on practice patterns. Direct education of emergency room physicians has resulted in greater utilization and reliance on DRE, with significant decreases in the use of abdominal imaging, even among pediatric populations.[36]

Once clinicians are trained and are more confident in their DRE skills, these techniques will become more refined and an “educated finger” will result. It is then that the clinician can optimally use DRE as a readily available, accurate, and cost-effective tool in the evaluation of patients presenting with defecatory disorders.

Clinical care points

- Mastering the digital rectal examination (DRE) requires dedicated training and hands-on experience.

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- The steps of performing a DRE can be developed into a systematic protocol easily implemented in almost any clinical setting.
- Provider hesitation in performing DRE is generally greater than the patient's concerns with regard to undergoing this evaluation.
- The performance of DRE during a clinic visit should not be postponed for future testing (eg, planned imaging or colonoscopy) as this may impose delays in diagnosis.
- With practice and clinical experience, DRE has the potential to achieve comparable accuracy to objective diagnostic testing, including anorectal manometry.

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