Why anorectal manometry is necessary?

Anorectal Manometry is a test performed to evaluate patients with fecal incontinence/chronic constipation. It provides comprehensive information about anal sphincter function; mechanisms of continence and defecation, rectal sensation, rectal compliance, and anorectal reflexes; and facilitates optimal management.

- Both fecal incontinence and chronic constipation are being largely ignored. Some studies say as many as 15-30 million people per year suffer from these issues, and access to manometry equipment can be limited. Getting these people on the path to recovery can change their lives.
“ARM together with adjunctive tests can not only confirm a clinical diagnosis but also provide new information that not be detected clinically. and can influence the outcome of patients with defecation disorders. Selective tests should be performed based on potential indication to evaluate each condition. In a prospective study, ARM was felt to be useful to 88% of patients. “

Taken from Page 176 of Source 2
Indications

- Evaluate refractory constipation
- Evaluate fecal incontinence
- Facilitate biofeedback training for dyssynergia
- Facilitate biofeedback for fecal incontinence
- Preoperative evaluation for anorectal surgery
  - Anal Fissure
  - Anal fistula
  - Anorectal cancer
  - Reversal of ileostomy/colostomy
- Postoperative evaluation for reversal for colostomy
Patient Preparation/Positioning

- Usually, no bowel preparation is required prior to ARM.
- No diet restrictions
- Routine medications can be continued
- A patient enema 2 hours before hand can be suggested
- The patient is laying on their left lateral side with knees flexed at a 90 degree angle.
Testing Sequence

1. RESTING
INTERNAL ANAL SPHINCTER

2. SQUEEZE
EXTERNAL ANAL SPHINCTER

3. EXPEL EMPTY
RECTAL/ANAL PRESSURES AND COORINATION DURING ATTEMPTED DEFECATION WITH NO BOWEL

4. EXPEL FULL
RECTAL/ANAL PRESSURES AND COORINATION DURING ATTEMPTED DEFECATION WITH BOWEL

5. SENSATION TESTING
ASSESS SENSORY THRESHOLDS IN RESPONSE TO RECTAL BALLOON DISTENTION

6. EXHALE
DETERMINE THE INTEGRITY OF THE LOCALE REFLEX ARC RESPONSIBLE FOR MAINTAING CONTINENCE DURING AN ABRUPT INCREASE OF INTRA-ABDOMINAL PRESSURE
## Normal Values

<table>
<thead>
<tr>
<th>Test</th>
<th>Male Anal</th>
<th>Male Rectal</th>
<th>Female Anal</th>
<th>Female Rectal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resting</td>
<td>55-70 mmHg</td>
<td>N/A</td>
<td>60-70 mmHg</td>
<td>N/A</td>
</tr>
<tr>
<td>Squeeze</td>
<td>170 mmHg and up</td>
<td>N/A</td>
<td>140 mmHg and up</td>
<td>N/A</td>
</tr>
<tr>
<td>Expel Empty*</td>
<td>Decrease from baseline</td>
<td>Increase from Baseline</td>
<td>Decrease from baseline</td>
<td>Increase from Baseline</td>
</tr>
<tr>
<td>Expel Full*</td>
<td>Decrease from baseline</td>
<td>Increase from Baseline</td>
<td>Decrease from baseline</td>
<td>Increase from Baseline</td>
</tr>
</tbody>
</table>

*Looking for a positive anorectal gradient. A negative gradient may indicate anismus but in the absence of the clinical symptoms of anismus, I am always cautious to call this based on this study alone and will usually obtain a defecography.

- Dr. Keith Munson

<table>
<thead>
<tr>
<th>Sensation Male</th>
<th>Sensation</th>
<th>Desire</th>
<th>Urgency</th>
<th>Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC Volume</td>
<td>30-50cc</td>
<td>60-80cc</td>
<td>100-120cc</td>
<td>120-150cc</td>
</tr>
<tr>
<td>Sensation Female</td>
<td>Sensation</td>
<td>Desire</td>
<td>Urgency</td>
<td>Pain</td>
</tr>
<tr>
<td>CC Volume</td>
<td>30cc-50cc</td>
<td>50-70cc</td>
<td>80-100cc</td>
<td>110-130cc</td>
</tr>
</tbody>
</table>
Reimbursement Info

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Description</th>
<th>National Medicare/Medicaid Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>91120</td>
<td>Rectal Sensation, Tone, and Compliance</td>
<td>$420</td>
</tr>
<tr>
<td>91122</td>
<td>Anorectal Manometry</td>
<td>$225</td>
</tr>
<tr>
<td>Average reimbursement</td>
<td>When billing with 2 codes normally ½ of smaller dollar code is paid</td>
<td>$532.50</td>
</tr>
</tbody>
</table>
Sample Reading #1

53-year-old patient with ulcerative colitis who had decreased squeeze pressures on examination the office when considering total abdominal colectomy with ileal anal J-pouch anastomosis.

Resting pressure: 70-75 mmHg  
Contracting pressure: 150-164 mmHg  
Contraction duration: 20 seconds

RAIR absent to machine read on first study, but on graph possible noted @ 40 ml. On second study RAIR absent to machine read ,but noted on graph @ 30 ml.
I do agree with this, RAIR is present
1st SENSATION-30- 40 ml
DESIRE- 80 ml
URG- 110 ml
PAIN- 130-140 ml
Slight decrease rectal size

Anismus by numbers but this does not fit the clinical situation.

Reasonable cough/effort.

Impression:
The patient does not have enough strength to have any surgical procedure for her ulcerative colitis.

Keith D. Munson M. D.
Sample Reading #2

74-year-old gentleman with an anal fistula involving a significant amount of his anal sphincter who had decreased pressures on physical examination in the office. Dividing a significant amount of muscle could easily make the patient incontinent.

Contracting pressure: 113-139 mmHg
Duration of contraction: Listed as 7 seconds on the machine reading however the patient is trying for the full 20 seconds. His pressure does however drop down to about 100 mmHg for the majority of the contraction.

RAIR ABSENT X2 to machine read. Noted on graph @ first sensation on first study. Second study restarted.

1ST SENSATION 50-80 ML
DESIRED: 110 ML
URG-150-220 ML
PAIN-210-230 ML
Mildly enlarged rectum

No anismus

Good cough

Impression:
Resting pressure is low. The patient is a diabetic.
Contracting pressure is also low.
If much muscle required division during his fistula surgery, this could be a problem for the patient.

Keith D. Munson M. D.
Sample Reading #3

81-year-old patient that underwent a total abdominal colectomy for C. difficile colitis who wants to have her stoma closed.

Resting pressure: 29-35 mmHg
Contracting pressure: 72-91 mmHg
Contraction duration: Read as 7 seconds however the patient is attempting for the full 20 seconds and is elevating pressure during this time.

I do think that the patient is having a RAIR at about 30 cm on both studies

RESTING STUDIES REPEATED DUE TO LOW READINGS. CATH CHANGED.
RAIR- ABSENT to machine read on both studies. Not noted on first study. On second study, questionable if RAIR noted after first sensation
1ST SENSATION-20-30 ML
DESIREE-50-70ML
URG/PAIN- 70- 80 ML
Micro-rectum

No evidence of anismus

Good cough

Impression:
Patient does have decreased resting and contracting pressures which are concerning given the desire to have her stoma closed.

Micro-rectum which goes along with her diverted status.

Keith D. Munson M. D.