



Massage has been used for constipation since the 19th century: how effective is it?

Does abdominal massage relieve constipation?

In this article...

- A review of the evidence for abdominal massage to relieve constipation
- Using massage to manage constipation associated with multiple sclerosis
- Gaps in evidence needing further research

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Abstract McClurg D, Lowe-Strong A (2011) Does abdominal massage relieve constipation? *Nursing Times*; 107: 12, 20-22.

Background Abdominal massage has been used to treat constipation since the 19th century, yet questions remain over its effectiveness and which patient groups benefit from it the most.

Aim To determine whether abdominal massage is effective for the relief of constipation.

Method A review of observational studies, case reports and randomised controlled trials was carried out to determine whether abdominal massage is effective in relieving constipation.

Results Abdominal massage can relieve constipation of various physiological causes. It stimulates peristalsis, decreases colonic transit time and increases the frequency of bowel movements. It also reduces discomfort and pain, induces relaxation and improves quality of life. No adverse effects have been reported.

Conclusion Abdominal massage should be considered when treating patients with constipation. It has no adverse side-effects and can easily be taught to patients and carers so they can undertake it themselves.

In the late 19th century, Garry wrote in *The Lancet*: "During the past few years I have seen a large number of cases of constipation successfully treated by massage and I believe it to be the most reliable method yet brought before the notice of the profession for this obstinate condition" (Garry, 1889).

The use of abdominal massage reached a peak in the early 20th century, forming part of the core curriculum for physiotherapy students, yet had almost disappeared by 1950. Massage therapy for constipation has since undergone a revival in clinical practice, especially in palliative care, oncology and hospice environments (Cole and Stanley, 1998; Trevelyan, 1996).

Constipation

Constipation disproportionately affects women and older adults; around 20% of older people in the community have constipation (Kamm, 2003).

Laxatives are used to treat the problem in primary care, costing an estimated £46m a year in England alone in prescription costs (Department of Health, 2001).

Constipation can have functional idiopathic causes, or be due to a variety of factors, including dietary and exercise patterns, medication and disease processes.

Constipation is often seen as a benign, easily treated condition, with short-term treatment being relatively straightforward.

However, chronic constipation is associated with complications that can develop into serious bowel complaints if left untreated, such as faecal impaction, incontinence and bowel perforations.

There are implications for healthcare costs and the patient's health-related quality of life (HR-QoL). Evidence suggests HR-QoL is lower in patients with constipation than in non-constipated individuals, and treatments for constipation improve HR-QoL (Mason et al, 2002).

There is also evidence that constipation or laxative use increases the risk of colon cancer (Watanabe et al, 2004).

Abdominal massage

Abdominal massage is thought to encourage rectal loading by increasing intra-abdominal pressure. In some neurological cases, massage can produce rectal waves that stimulate the somato-autonomic reflex and bowel sensation (Liu et al, 2005).

It has also been found to increase weight gain in preterm infants by increasing vagal activity and gastric motility (Diego et al, 2007).

Emly (2001) found abdominal massage to be effective for relieving constipation as

5 key points

1 Constipation can be caused by dietary and exercise patterns, medication and disease

2 If untreated, chronic constipation can lead to serious complaints such as faecal impaction, incontinence and bowel perforations

3 Abdominal massage is thought to encourage rectal loading by increasing intra-abdominal pressure. In neurological cases, it can produce rectal waves that stimulate bowel sensation

4 Abdominal massage appears to stimulate peristalsis, reduce colonic transit time and increase the frequency of bowel movements

5 Patients and carers can be taught abdominal massage techniques



Abdominal massage may stimulate peristalsis

BOX 1. MESSAGE TECHNIQUE USED TO TREAT PATIENTS WITH MULTIPLE SCLEROSIS

Participants were in a supine position, with head and shoulders supported. The abdomen was assessed for flatulence, pain and faecal matter in the gut.

The massage began with a gentle relaxing stroke up the abdominal wall, followed by four basic techniques: stroking; effleurage; kneading; and vibration.

Both patients and carers were taught the techniques, and were able to practise and ask questions during the visit. They were also given a teaching DVD demonstrating the techniques.

Stroking: This started at the

small of the back and followed the dermatome of the vagus nerve, over the iliac crests, and down both sides of the pelvis towards the groin. It was repeated several times;

Effleurage: Strokes followed the direction of the ascending colon, across the transverse colon and down the descending colon. This was repeated several times with increased pressure to stimulate the haustral and segmental contractions of the large intestine. The aim is to propel faecal matter along the gut;

Palmer kneading: This is the heart of the massage and tracks down the descending colon, up the ascending colon, and down the descending colon once again. Kneading helps to propel the faecal matter along the gut to load the rectum. Finger kneading may be required to break up faecal mass. This part of the massage may be uncomfortable because of the deep compression required.

Effleurage was repeated and continued with a relaxing transverse stroke over the abdomen.

Vibration: Over the abdominal wall to relieve flatulence. This concluded the massage session.

Source: McClurg et al (2011)

part of a bowel care programme, with an associated reduction in laxative use and improved HR-QoL.

Literature review

All four clinical trials in a systematic review conducted in 1999 of observational studies, case reports and controlled clinical trials on abdominal massage for the relief of constipation had methodological flaws. They were inconsistent in the types of patients used, massage technique and trial design, and only one trial was randomised (Ernst, 1999).

The review found no sound scientific evidence for the effectiveness of abdominal massage for relieving constipation but the trials did show enough positive

results, such as decreased constipation and improved patient wellbeing, to warrant more rigorous randomised, controlled trials with larger numbers of patients (Ernst, 1999).

Observational studies

Since Ernst's review, further observational studies, focusing on specific populations, have been carried out, including the following:

- » Profoundly disabled group home residents (Emly, 2001);
- » Hospice patients (Preece, 2002);
- » Older and post-stroke patients (Jeon and Jung, 2005, Kim et al, 2005);
- » Patients with spinal cord injuries (Albers et al, 2006; Ayas et al, 2006).

Case reports

There have been four individual case reports since 1999, all of which reported a decrease in constipation following abdominal massage. The case reports involved:

- » An eight-year-old boy with chronic constipation (Liu et al, 2005);
- » A 64-year-old woman with myelopathy (Quist, 2007);
- » An 80-year-old woman (Harrington and Haskvitz, 2006);
- » A young man with Guillain-Barré syndrome (Shirreffs, 2001).

Randomised controlled trials

More recently, three randomised controlled trials relating to the use of abdominal massage for the relief of constipation have been published.

Older people

Lamas et al (2009) studied the use of abdominal massage in 60 older people who were constipated or dependent on laxatives.

Participants were divided into a control and an intervention group, both of which continued to take laxatives during the eight-week study period. The intervention group also received 15 minutes of massage, five days a week, for eight weeks. Study participants received hand massage to help with relaxation, then light pressure abdominal massage.

The results showed a statistically significant decrease in constipation and abdominal pain in the treatment group, compared with the control group (Lamas et al, 2009). However, there was no reduction in laxative use in either group. The authors concluded abdominal massage could be used alongside laxatives, but must be seen as a long-term intervention as its effects were not evident until after four weeks of massage.

A further report studied the cost analysis of abdominal massage based on the findings of Lamas et al's (2009) study. It found that abdominal massage can be cost-effective in the long term, and it is appropriate to consider it when managing constipation (Lamas et al, 2010). A crucial aspect of cost effectiveness is to identify patients who will benefit from the intervention.

Colon surgery

Another randomised controlled study investigated the effectiveness of mechanical abdominal massage – a machine that applies intermittent pressure to the abdomen – on the peristalsis of patients who had undergone colon surgery the previous day.

Peristalsis normally slows or stops altogether after colon surgery, but the 25

patients who received the massage had a significantly decreased time to first passage of flatulence after surgery compared with the 25 who did not have massage (Le Blanc-Louvry et al, 2002). However, the results of this study are difficult to extrapolate to manual abdominal massage.

Multiple sclerosis

The most recent randomised controlled trial was by McClurg et al (2011). This two-group pilot study involved 30 people with multiple sclerosis who had constipation. Half received advice and abdominal massage, and the remainder were given advice only.

Massage was taught to participants or their carers and was undertaken daily for four weeks, with both groups receiving weekly visits from a clinician to reinforce the massage technique and advice on bowel management.

The primary outcome measure was the Constipation Scoring System, which demonstrated statistically significant benefits to the massage group. This tool uses eight variables: frequency; discomfort; pain on evacuation; use of stimulation; time spent; feeling of complete evacuation; history; and failure to evacuate. These are scored from 0-4 depending on the severity; a global score is obtained by summing the individual item scores, with a score of 15 or more defined as constipation.

Study participants reported increased frequency and ease of defecation, and a change in the consistency of the motions. Comments included:

"The massage just keeps things chugging along. There is no big rush to the loo."

"It's not as if you are taking extra laxatives or anything, the massage just encourages your natural system to get on with it."

"It was really amazing because it was so difficult to pass every time for the first three weeks, and then it became easier. It changed shape, it changed colour, it changed everything."

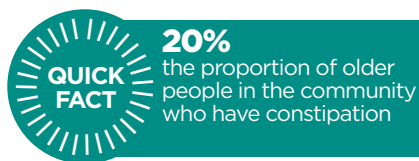
The authors suggest abdominal massage may be of benefit to people with constipation, including those with comorbidities such as multiple sclerosis.

Discussion

Abdominal massage appears to benefit some patients with constipation. However, several crucial questions need answering:

- » Is abdominal massage effective for all types of constipation?

- » Is it effective in people with pelvic floor dysfunction, rather than slow-transit constipation, or those with irritable bowel syndrome?
- » How long should the massage be performed for? Kim et al (2005) found constipation decreased after only 10 days of massage in older people, while Lamas et al (2009) found no effect until after four weeks of treatment.
- » What is the most effective technique? There is debate about the mechanisms of action of the massage, and the amount of pressure that should be applied. The effect is thought to be due



to a combination of sensory stimulation and relaxation, rather than stool being manually propelled along the digestive tract. Lamas et al (2009) described the massage technique as using "light pressure", while most other studies described "moderate pressure" (McClurg et al, 2011; Kim et al, 2005; Jeon and Jung, 2005; Emly, 2001; Preece, 2002).

- » Can massage be self-administered? Two of the case studies examined self-massage, and the majority of patients in the study by McClurg et al undertook the massage themselves. Although some found self-massage tiring, they liked the self-efficacy (McClurg et al, 2011).

Conclusion

Abdominal massage can relieve constipation of various physiological causes by stimulating peristalsis, decreasing colonic transit time and increasing the frequency of bowel movements.

It reduces feelings of discomfort and pain, and induces a feeling of relaxation. It has also been found to improve patients' quality of life, and no adverse side-effects have been reported.

The main drawback is the amount of time required to perform the massage, and the repeated nature of the intervention. However, abdominal massage is not a difficult technique to teach to patients and carers, and could undertaken by them if appropriate. **NT**

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