



# Clinical Case Report Competition

Vancouver College of Massage Therapy  
(VCMT)

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**Second Place Winner**

**Michelle Range**

Swedish massage performed to the abdomen of a subject  
with Irritable Bowel Syndrome

## Abstract

**Aim:** To discover if general Swedish massage applied to the abdomen has positive effects on the symptoms experienced by a subject diagnosed with irritable bowel syndrome (IBS).

**Background:** Case study done on thirty year old female over five weeks with two forty-five minute treatments per week. The subject's major symptoms were abdominal bloating, pain in the lower left abdominal quadrant and bouts of diarrhea or constipation.

**Methods:** Change in bloating was measured by girth measurements done at two levels in the abdomen, both before and after each treatment. Bloating was also measured with her other symptoms in a digestive journal that was filled out every treatment day, and measured symptoms as either: absent – 0, mild – 1, moderate – 2, severe – 3. Subject also completed a quality of life questionnaire specific to IBS pain before treatment #1, #5 and #10.

**Results:** Changes in girth were seen at the level of the umbilicus on an average decrease of 1.1 centimeters per treatment. Severity of symptoms remained relatively unchanged, with the exception of pain relief in the lower left abdominal quadrant post treatment. However, the subject's quality of life improved in regards to how often she empties her bowels, and the bowel habit description.

**Conclusion:** This study provided sufficient evidence to support that a longterm study could yield an appropriate treatment and maintenance plan with the aim of symptom relief for people with IBS.

*Key words: irritable bowel syndrome, IBS, Swedish massage, massage therapy*

## **Acknowledgements**

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## **Introduction**

Irritable bowel syndrome (IBS) is a digestive disorder involving the motility of the large and small intestine, and hypersensitive viscera (1). The peristaltic contractions in the intestines, which are controlled by the autonomic nervous system, are compromised and cause spasms in the smooth muscle, which leads to constipation or diarrhea and flatulence. Currently, there are no known causes that explain the occurrence of said spasms, as most people who present with IBS have no underlying issues or physical abnormality in their digestive system (2). IBS is more common in women (1,3), and the onset is usually between twenty to fifty years of age (3). The most prevalent symptoms are abdominal pain or discomfort and a change in bowel habit (3). When the bowel is expanded, a person will experience bloating, gassiness, diarrhea, constipation, sharp or nagging pain in the lower left abdominal quadrant, and a feeling of incomplete emptying of the bowels.

Formerly, it was thought that psychological issues (1) such as stress (physical or emotional), anxiety and depression caused IBS. However, it is currently understood that such issues exacerbate symptoms rather than cause them (1). Additional catalysts of IBS include food allergies or intolerances, excessive intake of insoluble fiber, alcohol and caffeine consumption, and high-fat or spicy foods (1,2,3,4). IBS can also be brought on by a gastrointestinal infection, most commonly the helicobacter pylori bacteria (1,3).

There are treatments options specifically aimed at alleviating common symptoms of IBS. Customarily, symptoms are managed with medications such as laxatives for constipation-dominant IBS, antidiarrheal and antispasmodics for diarrhea-dominant IBS and for bloating and gas, and antidepressants or selective serotonin reuptake inhibitors (SSRI) to block the pain receptors. Non-pharmacological treatments include dietary changes, regular exercise, yoga, meditation, aromatherapy, hypnotherapy, psychological counseling (1), as well as, alternative therapies such as herbal remedies, reflexology, acupuncture, and colonic hydrotherapy (4). Unfortunately, massage therapy is not a documented alternative therapy to IBS.

It is the purpose of this case study to demonstrate that Swedish massage to the back and abdomen in a person diagnosed with IBS will decrease the severity of their symptoms. Swedish massage was chosen for this study due to its ability to stimulate the parasympathetic nervous system, creating a systemic calming effect and stimulates digestion. Also, Swedish massage generates a systemic increase in circulation, which can help repair ischemic tissue, and is recognized for its positive results regarding pain relief (2). Specifically, this study aimed to present: a reduction in waist girth (bloating) by 3 cm on average per treatment, a decrease from severe to mild or absent symptoms as described by the subject, and an improvement of general quality of life for the subject.

### **The Subject: Case History**

As a result of her symptoms in April 2014, the subject of this case study was diagnosed with irritable bowel syndrome (IBS) by a gastroenterologist at Vancouver General Hospital. At the time of the case study, she received no other therapy and had not attempted an elimination diet. She was thirty years old, 5'3", 155lbs, physically active by means of biking, running,

plyometric/resistance training, and walking her dog. She follows a vegan diet and has done so for nearly ten years. She has been diagnosed with bipolar and panic disorder, hyperglycemia, vasovagal syncope and, most recently, IBS. Previously, she was on a variety of prescriptions in order to manage her bipolar and panic disorder, and had sought out cognitive-behavioural therapy. However, she presently only takes probiotics and iron supplements as a form of supplement/digestive aids, and no longer attends counseling sessions.

The subject's main complaints were severe bloating, constipation/diarrhea, and pain in her lower left quadrant of her abdomen. As of 1999, blood has been present in her stools, and beginning in 2012, her symptoms worsened, specifically the bloating and discomfort. Blood tests were conducted, which ascertained a lack in iron, vitamin B12 and protein. She altered her diet and began taking supplements. Nevertheless, symptoms persisted.

## **Methods**

This study entailed ten forty-five minute treatments carried out over a period of five weeks. On average, two treatments were performed per week with three to four days in between each treatment. Due to the subject's personal schedule, there was a six-day interval between treatment #4 and #5, though this was the longest amount of days between treatments. The identical treatment protocol, and a girth measurement (bloating) assessment and reassessment were implemented every time.

The subject's biggest complaints associated with IBS were severe bloating and abdominal pain. In order to record and measure the bloating, each treatment began and concluded with a girth measurement of her abdomen in two places: at the level of T9/T10 and slightly inferior to her umbilicus. These areas were chosen based on where the subject felt the

most tension due to the bloating (see APPENDIX A). In addition, a journal of symptoms rated absent, mild, moderate or severe was completed every treatment day (5) (see APPENDIX B), and a specific IBS quality of life questionnaire (6) (see APPENDIX C) was completed on the first, fifth, and tenth treatments. The girth measurements were conducted to measure bloating and, as stated above, were measured at two levels by using a standard measuring tape while subject was in a standing position. After each treatment, measurements were compared pre and post treatment for a change in centimeters and were calculated for an average change over the five weeks of treatments. The journal and the questionnaire provide the subject's perception of her symptoms, specifically the severity of gas, bloating, constipation, diarrhea and lower left abdominal quadrant pain. Moreover, as stress and anxiety are associated with IBS, she also tracked those levels in the journal. The IBS questionnaire focused on abdominal pain and bowel habits, and used a mixture of yes/no questions, fill in the blanks and visual analogue scales (measuring severity).

### **Massage protocol**

Subject started in the prone position and received a general Swedish massage to the back and neck for approximately fifteen minutes. Techniques used were as follows: diaphragmatic breathing, lumbar spine distraction, skin rolling to erector spinae group, effleurage, palmar/knuckle stroking and kneading, forearm stroking, open-c stroking, and wringing to the upper gluteals, latissimus dorsi, trapezius, quadratus lumborum, intercostals, infraspinatus, supraspinatus, rhomboid major and minor and levator scapulae. Fingertip stroking and kneading was done to the superficial muscles of the posterior neck (upper trapezius, cervicis capitis and occipital muscles).

The subject then turned over and was treated in this position for approximately twenty-five minutes. Treatment started with abdominal massage by using a technique known as full sun/half moon stroking in which the therapist strokes the subject's abdomen in a clockwise direction with both hands, one hand following the other. Next, three passes of fingertip kneading was done over the colon in the direction of digestion with counter-clockwise circular motions. Between each pass, full sun/half moon stroking was performed. To complete the abdominal massage, wringing to the abdomen and deep stroking to the anterior attachments of the diaphragm and intercostal muscles was performed.

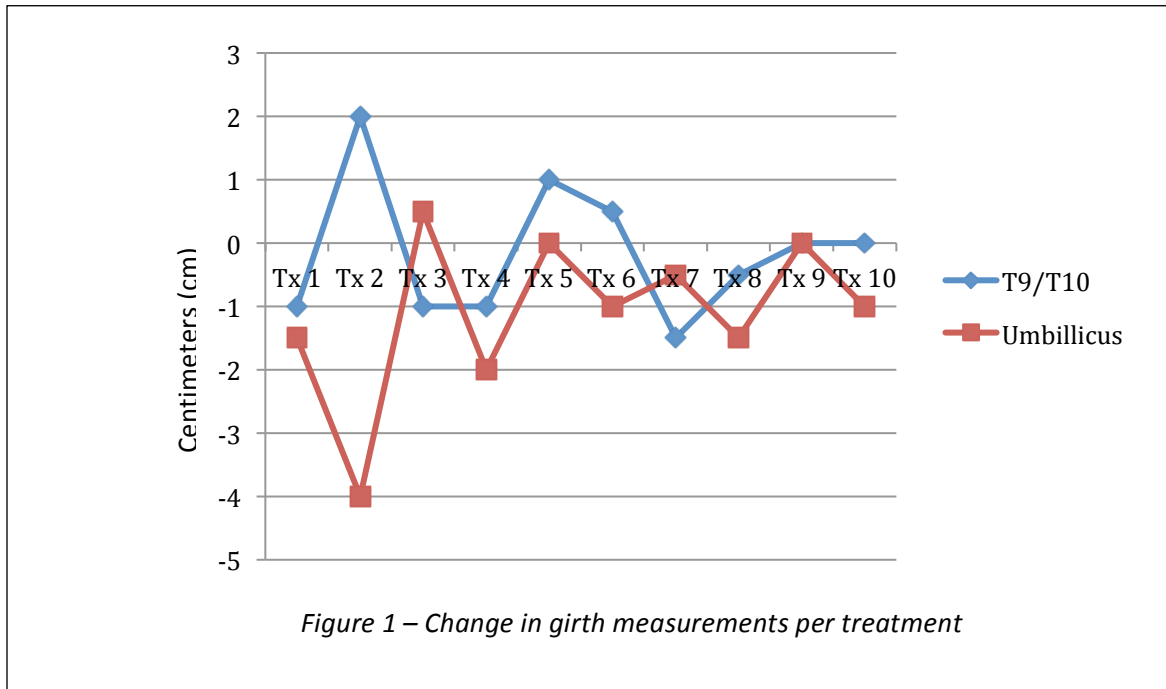
The final five minutes of the massage focused on the neck and a final relaxation. Diaphragmatic breathing was encouraged, gentle stroking was employed to the posterior and posterior-lateral areas of the neck, and a cranial base release with the addition of a cervical spine distraction concluded every treatment.

Every massage was supplemented with a homecare routine that consisted of diaphragmatic breathing to be done three times a day, every day for one minute and a contrast wash to the abdomen first thing in the morning following the first five treatments. Treatments #6 to #10 required an evening abdominal stretch once a day, held for forty-five seconds.

## **Results**

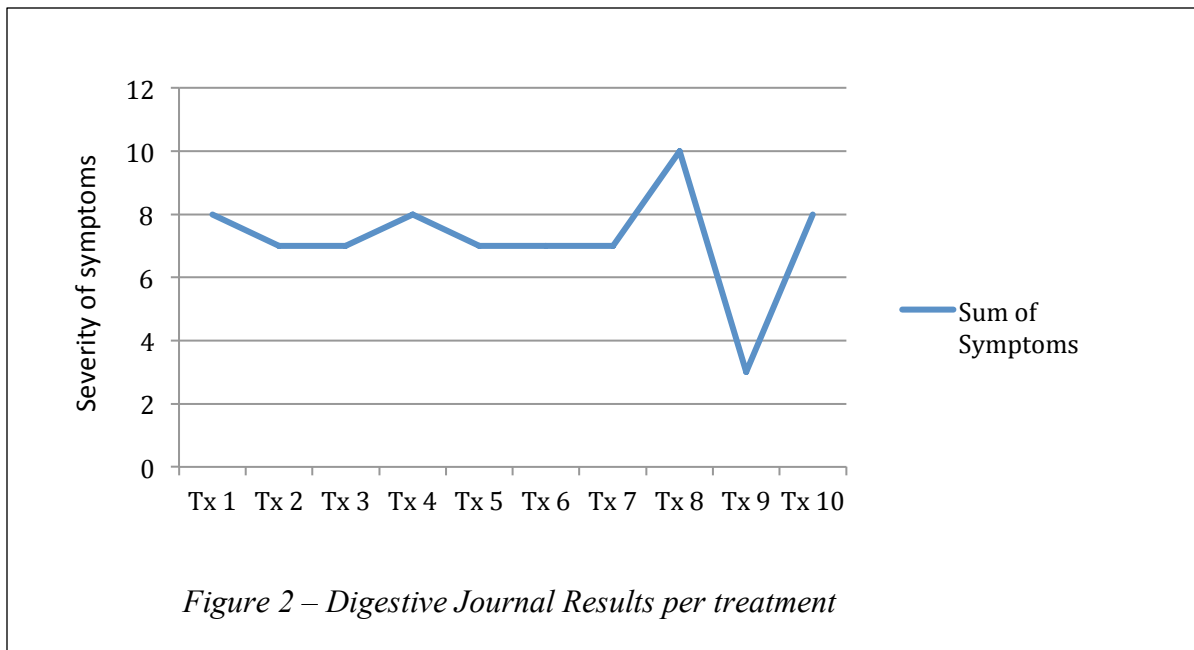
*Figure 1* demonstrates that seven out of the ten treatments performed resulted in a change of girth measurements of the subject's bloating. This change in centimeters was deduced by calculating the difference between pre and post treatment measurements at the two different levels. There were more significant decreases in bloating at the umbilicus level than at the

T9/T10 level. The mean change showed a decrease of 0.15 cm at T9/10 and a decrease of 1.1 cm at the umbilicus.



Results conclude that the umbilicus level measurement changed from 106.5cm at the beginning of treatment #1 to 103cm at the beginning of treatment #10. The results from the digestive journal were calculated on a scale of one to fifteen, the higher number signifying when symptoms were at their worst. *Figure 2* indicates where her symptoms were on the scale each day of the treatments. The average score was 7.2 out of 15.





The subject reported no pain in her lower left abdominal quadrant after each treatment. The results from the quality of life questionnaire showed the most significant change in how often she opened her bowels and the description of her bowel habits. In treatment #1, she stated that she opened her bowels fifteen times per day, in treatment #2, six times per day, and in treatment #10, four times per day. As for the description of her bowel habits, in treatment #1 she states that her bowel motions were: “never normal and often hard.” However, by the last treatment, these two descriptors improved to: “occasionally.”

## Discussion

Regardless of the seemingly insignificant changes recorded in the subject’s symptoms, the subject asserts that the abdominal massage was vital for pain relief. Previous to the majority of the treatments, the subject was experiencing lower left abdominal pain, which was alleviated during each treatment. She affirms that no other forms of intervention caused a feeling of

relaxation, heightened energy and an improved sense of well-being. When asked about her thoughts on this study, she felt that massage was beneficial for relieving the symptoms short term and could be a part of a wellness routine for coping with IBS. However, she acknowledged that massage was not the exclusive solution for the syndrome. In addition, she revealed that having someone support and help her with IBS symptoms alleviated her mental state and offered significant relief.

Although abdominal massage is contraindicated when a subject is experiencing acute diarrhea (2), it was necessary to perform treatments when the subject presented with this in order to obtain pertinent results. Contrary to this, her symptoms were not aggravated and there were no diverse results post abdominal massage.

It should be noted that some biases exist in this study. There is an existing friendship between the therapist and subject which predisposed the subject to trusting and enjoying the treatments, the subject is clinically diagnosed with bipolar and panic disorder which can skew results based on appropriate feedback and boundaries, and the therapist performed both the treatments and interviews which can put pressure on the subject to answer in such a way to appease the therapist. Results also may have been influenced by lack of control over the subject's diet (when she ate, how fast she ate, how much she ate, how often she ate) and the subject's emotional state (what changes were happening in her life, what were some stress/anxiety triggers that were going on between treatments).

This study of abdominal massage and its effects on IBS is important to massage therapists, as well as, the sufferers of IBS because it utilizes useful and accurate information on how massage therapy can help in the management of IBS symptoms. A longterm study with

more participants could reveal more significant results and may reveal how massage therapy is an effective alternative or supplemental treatment.

Presently, it is an ideal time to augment the amount of studies revolving around the treatment of IBS symptoms through massage therapy. The benefits of massage therapy are expanding daily, and recurring ailments such as IBS should not be excluded from this alternative treatment.

### **Conclusion**

This study provides evidence for the hypothesis that abdominal massage can have positive effects on the symptoms of irritable bowel syndrome such as alleviating pain and improving quality of life.

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## *Appendix A: Photos of Bloating Severity*



*Top Left: Mild*

*Top Right: Moderate*

*Bottom: Severe*

## Appendix B: Digestive Dysfunction Journal

| Digestive Dysfunction Journal - Severity: 0 = Absent, 1 = Mild, 2 = Moderate 3 = Severe |  |  |  |               |  |  |  |               |  |  |  |
|---|--|--|--|---------------|--|--|--|---------------|--|--|--|
| Date/Time:  |  |  |  | Date/Time:    |  |  |  | Date/Time:    |  |  |  |
| Gas   |  |  |  | Gas           |  |  |  | Gas           |  |  |  |
| Bloating  |  |  |  | Bloating      |  |  |  | Bloating      |  |  |  |
| Constipation  |  |  |  | Constipation  |  |  |  | Constipation  |  |  |  |
| Diarrhea  |  |  |  | Diarrhea      |  |  |  | Diarrhea      |  |  |  |
| LLQ Pain  |  |  |  | LLQ Pain      |  |  |  | LLQ Pain      |  |  |  |
| Anxiety Level   |  |  |  | Anxiety Level |  |  |  | Anxiety Level |  |  |  |
| Stress Level  |  |  |  | Stress Level  |  |  |  | Stress Level  |  |  |  |
| Date/Time:  |  |  |  | Date/Time:    |  |  |  | Date/Time:    |  |  |  |
| Gas   |  |  |  | Gas           |  |  |  | Gas           |  |  |  |
| Bloating  |  |  |  | Bloating      |  |  |  | Bloating      |  |  |  |
| Constipation  |  |  |  | Constipation  |  |  |  | Constipation  |  |  |  |
| Diarrhea  |  |  |  | Diarrhea      |  |  |  | Diarrhea      |  |  |  |
| LLQ Pain  |  |  |  | LLQ Pain      |  |  |  | LLQ Pain      |  |  |  |
| Anxiety Level   |  |  |  | Anxiety Level |  |  |  | Anxiety Level |  |  |  |
| Stress Level  |  |  |  | Stress Level  |  |  |  | Stress Level  |  |  |  |
| Date/Time:  |  |  |  | Date/Time:    |  |  |  | Date/Time:    |  |  |  |
| Gas   |  |  |  | Gas           |  |  |  | Gas           |  |  |  |
| Bloating  |  |  |  | Bloating      |  |  |  | Bloating      |  |  |  |
| Constipation  |  |  |  | Constipation  |  |  |  | Constipation  |  |  |  |
| Diarrhea  |  |  |  | Diarrhea      |  |  |  | Diarrhea      |  |  |  |
| LLQ Pain  |  |  |  | LLQ Pain      |  |  |  | LLQ Pain      |  |  |  |
| Anxiety Level   |  |  |  | Anxiety Level |  |  |  | Anxiety Level |  |  |  |
| Stress Level  |  |  |  | Stress Level  |  |  |  | Stress Level  |  |  |  |
| Date/Time:  |  |  |  | Date/Time:    |  |  |  | Date/Time:    |  |  |  |
| Gas   |  |  |  | Gas           |  |  |  | Gas           |  |  |  |
| Bloating  |  |  |  | Bloating      |  |  |  | Bloating      |  |  |  |
| Constipation  |  |  |  | Constipation  |  |  |  | Constipation  |  |  |  |
| Diarrhea  |  |  |  | Diarrhea      |  |  |  | Diarrhea      |  |  |  |
| LLQ Pain  |  |  |  | LLQ Pain      |  |  |  | LLQ Pain      |  |  |  |
| Anxiety Level   |  |  |  | Anxiety Level |  |  |  | Anxiety Level |  |  |  |
| Stress Level  |  |  |  | Stress Level  |  |  |  | Stress Level  |  |  |  |
| Date/Time:  |  |  |  | Date/Time:    |  |  |  | Date/Time:    |  |  |  |
| Gas   |  |  |  | Gas           |  |  |  | Gas           |  |  |  |
| Bloating  |  |  |  | Bloating      |  |  |  | Bloating      |  |  |  |
| Constipation  |  |  |  | Constipation  |  |  |  | Constipation  |  |  |  |
| Diarrhea  |  |  |  | Diarrhea      |  |  |  | Diarrhea      |  |  |  |
| LLQ Pain  |  |  |  | LLQ Pain      |  |  |  | LLQ Pain      |  |  |  |
| Anxiety Level   |  |  |  | Anxiety Level |  |  |  | Anxiety Level |  |  |  |
| Stress Level  |  |  |  | Stress Level  |  |  |  | Stress Level  |  |  |  |

## *Appendix C: Quality of Life Questionnaire*

### IBS QUESTIONNAIRE

#### INSTRUCTIONS

This form is designed to enable us to record and monitor the severity of your IBS. It is to be expected that your symptoms might vary over time, so please try and answer the questions based on how you currently feel. All information will be kept in strict confidence.

1. For some questions where a number of different responses are a possibility please circle the response appropriate for you.
2. Some questions will require you to write in an appropriate response.
3. Some questions require you to put a cross on a line which enables us to judge the severity of a particular problem.

For example:

#### ***How severe was your pain?***

*Please place your cross (X) anywhere on the line between 0-100% in order to indicate as accurately as possible the severity of your problem.*

*This example shows a severity of approximately 90%*

0% ]-----[ 100%

|            |                    |                 |        |                |
|------------|--------------------|-----------------|--------|----------------|
| no<br>pain | not very<br>severe | quite<br>severe | severe | very<br>severe |
|------------|--------------------|-----------------|--------|----------------|

## PART 1: SEVERITY SCORE

1. **a) Do you currently suffer from abdominal (tummy) pain?** YES NO(circle appropriate)

**b) If yes, how severe is your abdominal (tummy) pain?**

0% ]-----[ 100%

no pain                      not very severe                      quite severe                      severe                      very severe

**c) Please enter the number of days that you get the pain in every 10 days.**

For example if you enter 4 it means that you get pain 4 out of 10 days. If you get pain everyday enter 10.

Number of days with pain: \_\_\_\_\_

2. **a) Do you currently suffer from distension\*? (bloating, swollen, or tight tummy)** YES NO  
(\*women please ignore distension related to your periods) (circle appropriate)

**b) If yes, how severe is your abdominal distension/tightness?**

0% ]-----[ 100%

no pain                      not very severe                      quite severe                      severe                      very severe

3. **How satisfied are you with your bowel habit?**

0% ]-----[ 100%

very happy                      quite happy                      unhappy                      very unhappy

4. **Please indicate with a cross on the line below how much your irritable bowel syndrome is affecting or interfering with your life in general**

0% ]-----[ 100%

not at all                      not much                      quite a lot                      completely



## PART 2: OTHER IBS DATA

### BOWEL HABIT

**5. a) What is the number of times you open your bowels per day/week/month?**

Number of times \_\_\_\_\_ per day / week / month(*circle appropriate*)

*Note: For some people the answer to part a and b could be the same.*

**b) What is the least number of times you open your bowels per day/week/month?**

Number of times \_\_\_\_\_ per day / week / month(*circle appropriate*)

**6. In the following questions you may circle more than one answer:**

***Are your motions ever:***

- |   |                              |                               |
|---|------------------------------|-------------------------------|
| a) <i>Normal</i>                                    | often / occasionally / never | ( <i>circle appropriate</i> ) |
| b) <i>Hard</i>                                      | often / occasionally / never | ( <i>circle appropriate</i> ) |
| c) <i>Very thin (like string)</i>                   | often / occasionally / never | ( <i>circle appropriate</i> ) |
| d) <i>In small pieces<br/>(like rabbit pellets)</i> | often / occasionally / never | ( <i>circle appropriate</i> ) |
| e) <i>Mushy (like porridge)</i>                     | often / occasionally / never | ( <i>circle appropriate</i> ) |
| f) <i>Watery</i>                                    | often / occasionally / never | ( <i>circle appropriate</i> ) |

**7. In the following questions you may circle more than one answer:**

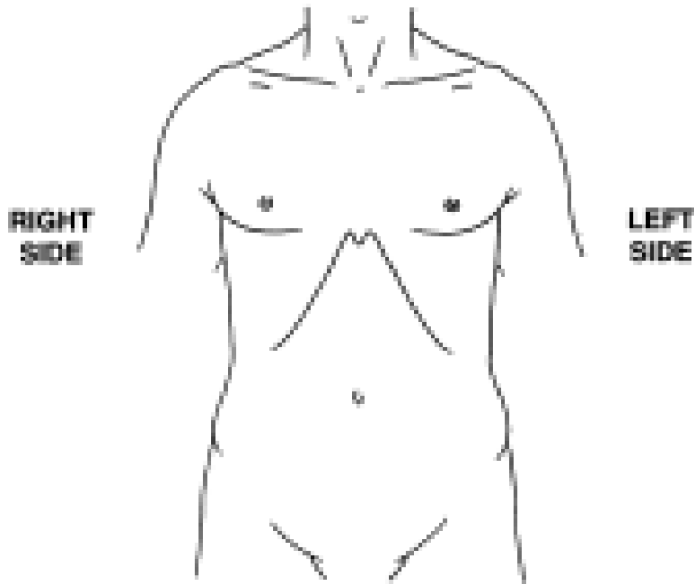
***Do you ever:***

- |   |     |    |
|---|-----|----|
| a) <i>Pass mucus (or slime or jelly) with your motions</i>                              | YES | NO |
| b) <i>Pass blood with your motions</i>  | YES | NO |
| c) <i>Have to hurry/rush to the toilet to open your bowels</i>                          | YES | NO |
| d) <i>Strain to open your bowels</i>  | YES | NO |
| e) <i>Feel you haven't emptied your bowel completely after you have passed a motion</i> | YES | NO |

## PART 2: Continued

### SITE OF PAIN

*Please mark with a cross (x) on the diagram below where you get your pain (use more than one x if necessary)*



**8. Do you ever:**

- a) Notice your stools are more frequent or loose when you get pain? YES NO  
(circle appropriate)
- b) Notice whether the pain is frequently eased by opening your bowels? YES NO  
(circle appropriate)

**9. In the last year approximately how many weeks were you:**

- a) Absent from work due to IBS \_\_\_\_\_  
(enter 52 if you have given up work completely because of IBS)
- b) At work suffering from IBS \_\_\_\_\_