

Patient Information Leaflet



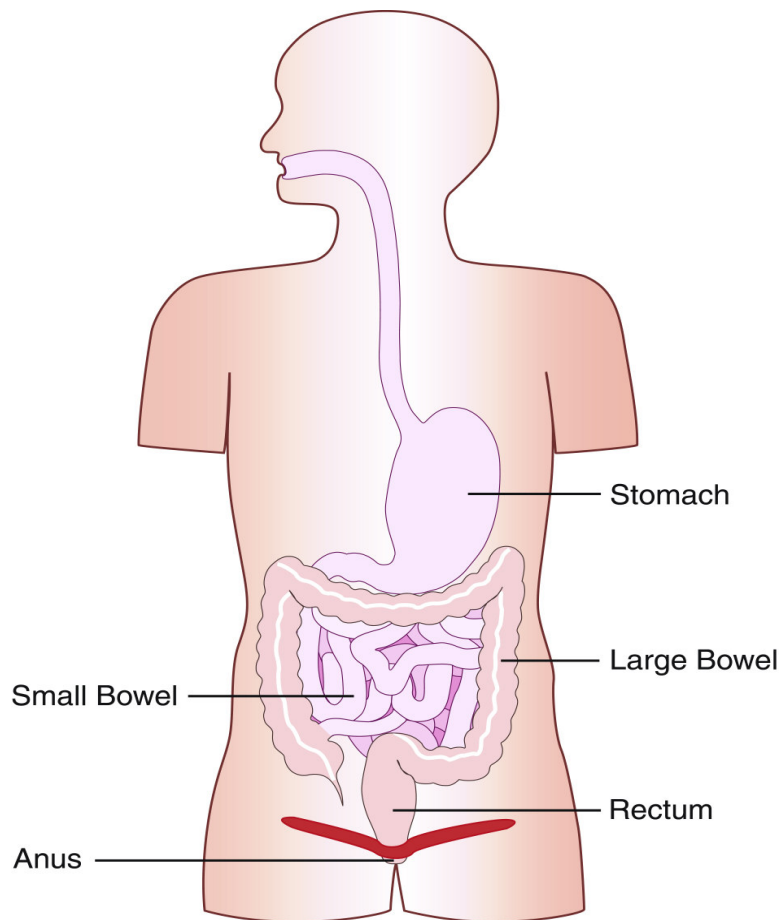
Normal Bowel Function

Normal Bowel Function

Most adults take bowel control for granted and need to give it little thought except for the few minutes a day that are spent emptying the bowel on the toilet. However, bowel control is actually a complex and incompletely understood process, involving delicate co-ordination of many different nerves and muscles.

The bowel is part of the digestive system and its role is to digest the food that we eat, absorb the goodness and nutrients from the digested food into the blood stream, and then to process and expel the waste products from the food that the body cannot use. This process starts at the mouth and finishes at the *anus* or back passage (Figure 1).

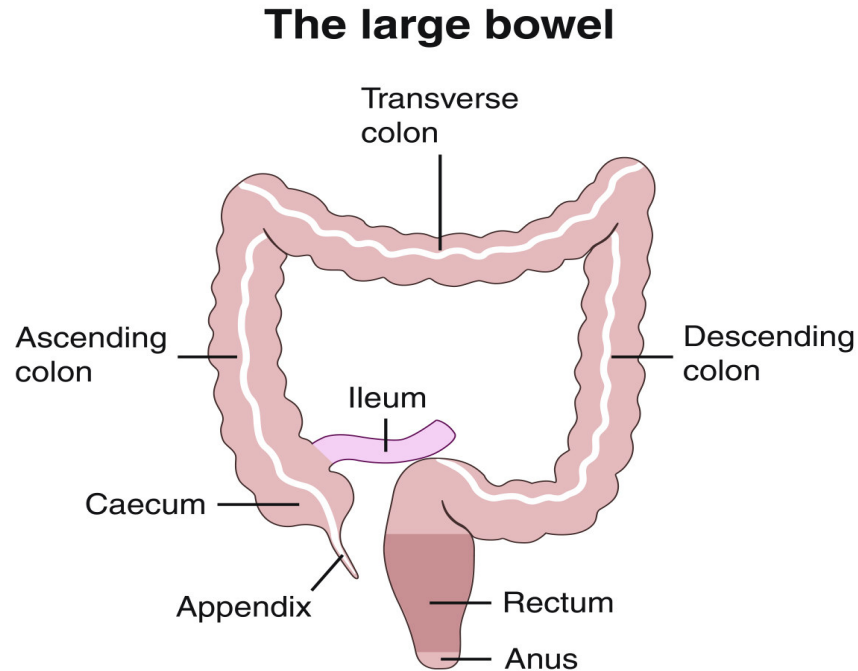
Figure 1: The bowel



The *small bowel*, or *small intestines* is the part of the bowel where the useful parts of food are absorbed. The small bowel delivers one or two pints (500-1,000mls) of waste to the *colon* per day. The colon, or *large bowel* is the waste processing part of the system (Figure 2). This waste is the consistency of thick pea soup when it enters the beginning of the colon. It is the job of the colon to absorb fluid from this waste and, as it moves around the colon, to gradually form it into *stools* (also called *faeces* or *bowel motions*). Stool consistency can vary between hard lumps to very

loose or mushy, often depending how long the stools have been in the colon and how much water has been absorbed from them. Ideally stools should be formed into soft smooth sausage-shapes which are comfortable to pass.

Figure 2:

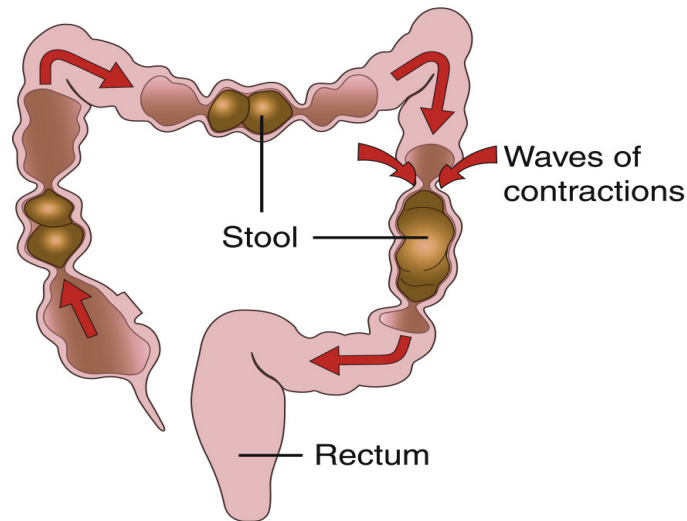


The left side of the colon and the *rectum* are the "storage tank" at the end of the large bowel. Normally the rectum is relatively empty. Stools do not enter the rectum from the colon on a continuous basis, but as a result of *mass movements*, which happen from time to time, especially before the need to go to the toilet is experienced. These mass movements are major waves of pressure, which can move stool through the whole length of the colon, like toothpaste being squeezed along a tube (Figure 3). Often a large part of the contents of the colon arrives in the rectum at once.

These mass movements are often triggered by the so-called *gastro-colic response*. Food arriving in the stomach when you eat a meal sets off a pressure wave in the colon some minutes later. This can lead to the need to empty the bowel, sometimes urgently, soon after eating. For many people the bowel is relatively quiet at night. The first meal of the day, together with the physical activity involved in getting out of bed and washing and dressing, stimulates contractions in the colon and mass movements. This leads to a "*call to stool*", the feeling that the bowel needs emptying, shortly after breakfast.

Figure 3:

Mass movements in the colon



Food usually takes an average of one to three days to be processed and up to 90 per cent of that time is spent in the colon.

How often should I empty the bowel?

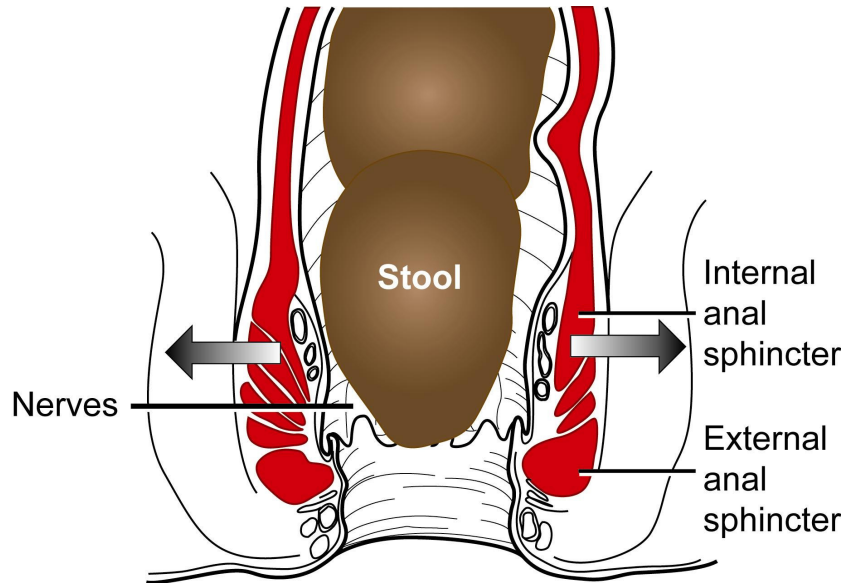
There is no right or wrong answer to this. There is a very wide range of “normal” bowel function between different people. It is by no means essential to have one bowel action per day, and indeed it is probably a minority of the total population who has this. Some people always go several times per day; others have several days between bowel actions.

Perception of what is normal is based on personal experiences and growing up with other people. Most of us do not discuss bowel habit with our friends, or even our family. A few people become obsessed with the need for a daily bowel action and spend excessive amounts of time in the toilet or take laxatives to achieve this. Often this is unnecessary.

Normal bowel emptying

When stool enters the rectum the internal anal sphincter muscle automatically relaxes and opens up the top of the anal canal. This is normal and allows stool to enter the upper anal canal to be “sampled” by the very sensitive nerve cells in the upper anal canal (Figure 4). People with normal sensation can easily tell the difference between wind (gas, also called *flatus*), which can safely be passed if it is socially convenient without fear of soiling, *diarrhoea* (very loose or runny stools needing urgent attention and access to a toilet) and a normal stool. Most people just know what is in the rectum without really having to think about it.

Figure 4:

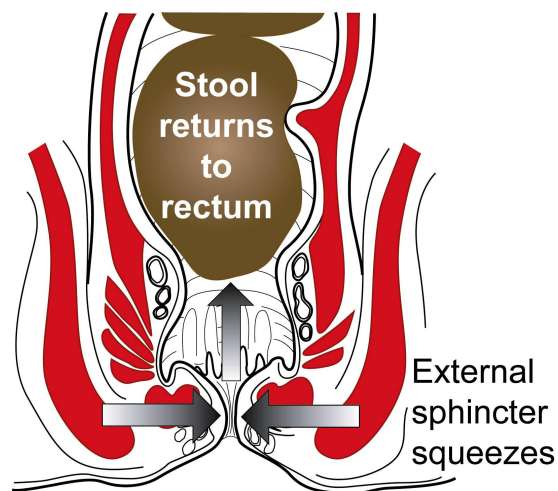


Internal sphincter relaxation when the rectum is full

Around the internal anal sphincter is the *external anal sphincter*, which is much thicker. This is the muscle around the anus that you can deliberately squeeze. Just like the muscles in the arm or leg, a person can decide when to use this muscle.

If a normal stool is sensed and it is not convenient to find a toilet at that moment, bowel emptying is delayed by squeezing the external anal sphincter. Squeezing the external sphincter ensures that the stool is not simply expelled as soon as it enters the rectum, and in fact the stool is pushed back up out of the anal canal (Figure 5). For most people this is not a deliberate action - you should not need to think, "I must squeeze my anal sphincter muscles so that I do not have a bowel action" - but this is actually what you do, subconsciously without really thinking about it.

Figure 5:



External sphincter squeezes retracting stool

This external sphincter squeeze does not need to last all the time until the toilet is found. Stool is propelled back into the rectum, and the rectum relaxes and so the urge to empty the bowel is resisted and wears off.

For most people, an urge to empty the bowel is felt, but if the time and place are not right, it is possible to delay bowel emptying, and the feeling of needing to go wears off very soon. Most people can then forget about the bowel for a while, and some can put off bowel emptying almost indefinitely, but may get reminders that the bowel is full at intervals until it is emptied. Continually resisting the urge to empty the bowel or ignoring the *call to stool* can lead to constipation, as the longer the stools stay in the colon and rectum, the more fluid is absorbed and the harder the stools become.

As you can imagine, this is a delicate system and unfortunately there are many things that can go wrong with it.

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