

# TESTING TREATMENTS

## Chapter 3, 3.1

### 3 More is not necessarily better

A popular misconception is that if a treatment is good then more of it must be better. This is simply not true – indeed more can be worse. Finding the ‘right’ dose – where benefits are high and adverse effects (side-effects) are low – is a challenge common to all treatments. As the dose is increased, beneficial effects reach a plateau, but adverse effects usually increase. So ‘more’ may decrease the actual benefit, or even cause overall harm.

Diuretics (water tablets) are a good example: in low doses they lower blood pressure and have few adverse effects. A higher dose does not lower blood pressure any further but does lead to unwanted effects, such as excess urination, impotence and increased blood sugar. Similarly, aspirin in low doses – between a quarter and a half of a standard tablet per day – helps to prevent strokes, and with very few adverse effects. However, while several aspirin tablets per day might relieve a headache, they will not prevent any more strokes and will increase the risk of stomach ulcers.

This principle of the ‘right dose’ extends beyond drug therapy to many other treatments, including surgery.

#### INTENSIVE TREATMENTS FOR BREAST CANCER

The therapies advocated for breast cancer – so often in the news – provide some especially valuable lessons about the dangers of assuming that more intensive treatments are necessarily beneficial.

**WE DO THINGS BECAUSE . . .**

'We [doctors] do things, because other doctors do so and we don't want to be different, so we do so; or because we were taught so [by teachers, fellows and residents (junior doctors)]; or because we were forced [by teachers, administrators, regulators, guideline developers] to do so, and think that we must do so; or because patient wants so, and we think we should do so; or because of more incentives [unnecessary tests (especially by procedure oriented physicians) and visits], we think we should do so; or because of the fear [by the legal system, audits] we feel that we should do so [so-called 'covering oneself']; or because we need some time [to let nature take its course], so we do so; finally and more commonly, that we have to do something [justification] and we fail to apply common sense, so we do so.'

Parmar MS. We do things because (rapid response).  
*BMJ*. Posted 1 March 2004 at [www.bmj.com](http://www.bmj.com).

Throughout the 20th century and into the 21st, women with breast cancer have both demanded and endured some exceedingly brutal and distressing treatments. Some of these treatments – surgical and medical – far exceeded what was actually required to tackle the disease. But they were also unquestionably popular with some patients as well as their doctors. Patients were convinced that the more radical or toxic the therapy, the more likely the disease would be 'conquered'. It has taken doctors and patients who have been prepared to challenge orthodox views of the condition many years to begin to turn the tide of mistaken belief. They not only had to produce reliable evidence to banish the myth that 'more is better', but also suffer the ridicule of their peers and the resistance of eminent practitioners.

Today, fear, coupled with the belief that more must be better, still drives treatment choices, even when there is no evidence of

#### **DRASTIC TREATMENT IS NOT ALWAYS THE BEST**

'It is very easy for those of us treating cancer to imagine that better results are due to a more drastic treatment. Randomized trials comparing drastic treatment with less drastic treatment are vital in order to protect patients from needless risk and the early or late side effects of unnecessarily aggressive treatment. The comparison is ethical because those who are denied possible benefit are also shielded from possible unnecessary harm – and nobody knows which it will turn out to be in the end.'

Brewin T in Rees G, ed. *The friendly professional: selected writings of Thurstan Brewin*. Bognor Regis: Eurocommunica, 1996.

benefit over simpler approaches, and where known harms are considerable, including the possibility of death from the treatment itself. For example, this mindset still prompts some patients and their doctors to opt for 'traditional' mutilating surgery. Others choose high-dose chemotherapy, with its well known unpleasant and painful side-effects, or Herceptin, which can cause serious heart problems (see Chapter 1), even when simpler treatments would be sufficient. How can this be?

#### **Mutilating surgery**

Until the middle of the 20th century, surgery was the main treatment for breast cancer. This was based on the belief that the cancer progressed in a slow and orderly manner, first spreading from the tumour in the breast to local lymph nodes, in the armpit, for example. Consequently it was reasoned that the more radical and prompt the surgery for the tumour, the better the chance of halting the spread of the cancer. Treatment was by extensive 'local' surgery – that is, surgery on or near the breast. It may have been called local, but a radical mastectomy was anything but – it involved removing large areas of chest muscle and much lymph node tissue from the armpits as well as the breast itself.