

THE BENEFITS OF WEIGHT LOSS

Key Points:

1. Weight loss is the most powerful therapy we have in medicine today.
2. Weight loss from LAP BAND placement leads to resolution of most of the diseases that arise from obesity.
3. Weight loss from the LAP BAND improves quality of life.
4. After substantial weight loss by the LAP BAND there is a marked improvement in length of life.

Weight loss is the most powerful therapy we have available in medicine today. There is no other treatment that can make such a difference to so many health problems. There is no therapy which improves people's quality of life. And, in particular, there is no other therapy that so clearly protects people from dying prematurely.

We have just seen in Chapter 1 that there are many diseases caused or made worse by obesity. We have seen that obesity reduced the quality of people's lives by limiting them physically and socially. And we have seen how obesity is rapidly becoming the greatest cause of preventable death, above even smoking. It is natural to assume that, with weight loss, all those problems will go away. Everything comes back to normal and there is no more trouble. That is not a reasonable assumption to make without some proof.

It could be the damage has been done. The weight loss might slow the progression of disease but can it really reverse a disease process or improve quality of life after 20 or 30 years of disease? Even with weight loss, people may die just as prematurely, the patient with diabetes may continue to need insulin and the chronically unemployed may still not be able to get work. We need data. If we do not measure it we cannot know. Fortunately, we have now measured most of the problems of obesity and the results are reassuring.

Let's take the comorbidities of obesity first. I am going to look at studies that I have done with my colleagues at the Centre for Obesity Research and Education at Monash University over the last 10 years. All of these studies have been published in the medical literature and are available on the CORE

website (www.monash etc) and on the DVD that comes with this book. If you want more detail than the brief summary I provide here, please go to these sources and study the reports in more detail.

Type 2 diabetes:

Type 2 diabetes is the paradigm of an obesity-related disease. In most cases, it exists because of the obesity and, in most cases, it will disappear with weight loss. It is common, it generates multiple serious complications, and it is lethal.

Most people with type 2 diabetes are overweight and about half are obese. This is particularly well illustrated by the Nurses Cohort Study, an important ongoing study in the US, in which approximately 100,000 nurses have been followed for many years. Based on the risk of developing type 2 diabetes when the BMI is 21, this study showed that risk of developing type 2 diabetes was 5 times greater at BMI 25, 35 times greater at BMI 30, and 93 times greater at or above BMI 35. It is estimated that there are now more than 17 million people with type 2 diabetes in the United States and over one million in Australia. Given the morbidity and mortality that diabetes causes in young and middle-aged adults, this disease alone should elicit a very loud call for action against the rising epidemic of obesity.

Most of our patients who were diabetic before the LAP BAND have either become non-diabetic or have had a significant reduction of the medication they need for control of their sugar levels. In an early study (study # xx) of 50 patients who had diabetes and severe obesity, at one year after the band, 28 (56%) were off all treatment and had normal blood sugars and other markers of diabetes. To all intents and purposes they were cured. A further 14 were much improved but still needed some treatment. 84% had a complete or partial benefit.

No treatment other than weight loss can do this. Most treatments of diabetes strive just to limit the severity and dangers of the disease by keeping the blood sugar levels as near to normal as possible. Weight loss can take the disease away completely. Diabetes is a dreadful disease. It damages most systems of the body and severely shortens life expectancy. Weight loss can change the disease dramatically. If you are obese and have type 2 diabetes, it is essential that you lose weight. This should be seen as the

most important part of the treatment of diabetes. If the simpler options of lifestyle change through less eating and more exercise, have not succeeded, Lap Band placement must be considered.

Hypertension:

High blood pressure is a major risk factor for heart attacks and strokes. It is much more common in the obese. We followed 88 people with high blood pressure for 12 months after LAP BAND placement (study # xx) and found that, by that time, 60% had returned to normal blood pressure, off all treatment. Another 33% had found their blood pressure was much easier to control.

Abnormal Fats in the Blood:

Medically we call this problem dyslipidemia- "dys" means disordered, "lipid" is another word for fat and "emia" refers to the blood. In obese people the triglyceride levels are often elevated and, the HDL cholesterol, which is sometimes referred to as the "good" cholesterol, is abnormally low. We have followed several hundred patients for four years after LAP BAND placement (study # xx) and have found that the triglycerides and the HDL cholesterol rapidly return to normal and stay there for at least the four years. As abnormalities of these lipids is a clear risk factor for heart disease, this change in levels is regarded as very beneficial.

Reflux Esophagitis:

More than half the people I see with severe obesity have some heartburn. This is the pain or uncomfortable feeling you get behind the breastbone when acid from the stomach travels up into the esophagus and irritates the lining enough to give symptoms. About one in five of our patients will have this problem severely enough to have to take drug therapy to reduce the acid. If the disease continues for long enough, a change, known as Barrett's esophagus, can occur in the lining of the esophagus. This new lining is regarded as premalignant. It carries a 50 times increase of the chance of developing cancer of the esophagus.

More than half our patients have heartburn before the LAP BAND placement and almost all are cured by the procedure. We followed 88 patients who had a moderate or severe stage of the disease (study # xx). At 12 months 90% had no further symptoms and were not taking any medication

for the problem. The band is very good at blocking reflux. This is a direct effect of the band sitting at the very top of the stomach where it can stop acid reflux. The benefit is felt immediately after operation, before any weight loss has had time to occur.

Sleep-Disordered Breathing

The most significant disorder of breathing whilst asleep is obstructive sleep apnea and I will come back to this problem in a moment. Other problems include habitual snoring, daytime sleepiness, and poor sleep quality. We looked at 313 of our obese patients before Lap Band placement and found that 59% of the men and 45% of the women had some form of disturbed sleep (Study #xx). We restudied 123 of these people at one year after Lap Band placement by which time they had lost nearly half of their excess weight. The habitual snoring had decreased from 82% to 14%, abnormal daytime sleepiness was reduced from 40% to 4% and poor sleep quality reduced from 40% to 2%. As a group they were snoring less, sleeping better and felt less tired during the day. We were a little surprised to find that the problems were nearly as common in the women as the men and yet the men are much more likely to attract medical attention and have proper sleep assessments performed.

Obstructive Sleep Apnea

Obstructive sleep apnea (OSA) is a disease in which you stop breathing during your sleep. The word "apnea" means "no breathing". Typically, you are snoring away as usual and then there is a period of quiet. Your partner is delighted for the moment of peace and quiet but anxious that there is absolutely no sound. You could be dead. There may be silence for up to a minute. Then, with lots of grunts and snorts, you get going again back to heavy snoring.

What has happened is that the tissues in the neck have become too bulky and there is inadequate space. As you start to go into the deep phase of sleep, your muscles relax, your tongue falls back and closes the small space present and blocks your airway. As the oxygen levels in the body fall, the brain stirs, wakes you up and tells you to get back to some serious breathing. You wake up, get some tone back in the tongue and the snoring show is back on the road. These episodes may happen one hundred times a night. They are not good for the brain or the heart or the marriage. You

don't get a good night's sleep and are drowsy through the day. The drowsy driver is now recognized as a major contributor to road deaths. It is bad for you and dangerous for others.

In the study of sleep-disordered breathing described above, we found that one third of the patients had observed sleep apnoea before Lap Band placement. By that I mean that their partner observed them stopping breathing during periods of heavy snoring. After weight loss, only 2% had the problem. In a later study (study #xx) we examined this more closely by doing sleep studies before and at an average of 18 months after the Lap Band. In the sleep study, each person has their sleep status and their breathing monitored overnight in a sleep laboratory. We studied 25 men and women who were massively obese with an average BMI of 53. Before operation, 23 had been diagnosed as having sleep apnoea and were using continuous positive airway pressure (CPAP) machines to help them through the night. The other two had sleep apnoea but were not using CPAP. After an average weight loss of 45kg each, only six were still using their CPAP machines and all of those machines were set at lower pressures. As a group they also notice a major improvement in other health measures, improved quality of life, less depression and less daytime sleepiness. The health benefits of weight loss for these people were very clear.

Asthma

Asthma has only recently been recognized as an important comorbidity of obesity. It is at least twice as common in obese kids and adults as those with normal weight. Weight loss by Lap Band placement has help almost every one of our asthmatic patients. All find it easier to manage their asthma and to avoid severe attacks and some have no more trouble with asthma after they have lost weight. In our studies we found a remarkable reduction in the need to be admitted to hospital for asthma.

All patients who have asthma will have improvement in association with the Lap Band. In some cases, there will be no further attacks and no need for continuing therapy. In a specific study of the effects of weight loss on asthma, we followed 33 patients for one year (study # xx) . All showed improvement with less attacks and easier control. One third of the patients had no asthma attacks at all during the year. In the year before the Lap Band procedure nine of the group had required admission to hospital on one or more occasions because of acute episodes of asthma. No admissions to

hospital were needed in the year after operation.

Non-Alcoholic Steatohepatitis (NASH)

This name is a bit of a mouthful but simply means inflammation of the liver (hepatitis) associated with fat (steato) and not due to excess alcohol. The acronym - NASH - is clearly easier. It occurs particular in the obese who have a lot of their weight in the middle, the apple-shaped, and who are at risk of diabetes or already have diabetes. You may not have heard much about it but it is becoming recognized as a major health problem and is now one of the common diseases leading to the need for a liver transplant. If we think you are at risk of NASH, we will take a biopsy of the liver at the time of the LAP BAND to check for it. In a recent study (study # xx) we took a second liver biopsy at approximately 2 years after the LAP BAND to check if the problem was resolving with weight loss. In 23 patients NASH was present at the initial biopsy and it was present in only 4 of these people at repeat biopsy. The changes associated with weight loss had led to resolution of this dangerous condition in 19 of the 23 people.

Infertility and Polycystic Ovary Syndrome

Obesity leads to infertility in women most commonly due to irregular ovulation or none at all. One particular condition that is common in obese women is polycystic ovary syndrome, often abbreviated to PCOS. In this condition there are abnormalities that lead to an excess of the male hormone, testosterone, free in the circulation. Many of these women notice acne and excess hair on the face in association with very irregular periods. Weight loss leads to correction of the hormonal problems, periods become more regular and fertility increases. In a study of the hormonal changes in 107 women(study # xx), 12 were shown to have PCOS initially. It resolved in 11 of them as they lost weight.

Pregnancy

Not only are the women more likely to become pregnant after losing weight, they will also have a better outcome. Pregnancy in severely obese women is associated with important risks to both the mother and the baby. Do women who have lost weight after the LAP BAND have less problems? We have had over 100 pregnancies in our patients after the Lap Band. In a recent report

(study #xx) we compared their outcomes with the pregnancies they had before the LAP BAND and with the outcomes of pregnancy that are expected in the normal community.

After LAP BAND they did just fine. The weight gained during the pregnancy was about the right amount - 16 to 19lb (8-9 kg). This was because of a very important asset of the LAP BAND - its adjustability. We can remove fluid if the weight gain is not ideal and allow a greater food intake, enough for the pregnant mother and the growing baby. Other bariatric procedures do not allow that margin of nutritional safety.

The birth weights of the babies were identical to the community normals - about 7 lb (3.3 kg) and there was about the same incidence of problems such as high blood pressure, diabetes and need for caesarian section as occur in the general community. These outcomes were clearly better than had occurred in the previous pregnancies of these women before they had lost the weight.

Depression

Depression is common in obese people. We followed the outcome of 262 consecutive LAP BAND patients (study # xx). We measured their level of depression before operation and found that they were almost equally divided into four groups. Approximately one quarter were not depressed at all and one quarter each had mild depression, moderate depression or severe depression. We followed them for up to 4 years and noticed a major and durable improvement. At the end of the study three out of four were judged to be not depressed and very few were left with moderate or severe depression.

The Effects of Weight Loss on Survival

We all want to live a long life. We don't want to die prematurely. It is clear that obesity is associated with a reduced life expectancy due to the effects of all the diseases it causes. Heart disease, stroke, cancers and all the complications of diabetes are just some of the dangerous problems that could lead to early death. But do you live longer if you have been obese and lose weight. We have been seeking the answer to that question by looking at

the outcomes for our patients who have lost weight after the LAP BAND and comparing the number of deaths that have occurred in our patients with an equivalent group of people who were obese but have not lost weight. This study has just finished and will be published soon and so is not available on the DVD.

In summary this is what we found. I have followed 1466 patients for an average of 3.6 years and compared them to a group of 2119 obese patients who remained obese and who were followed for an average of 12 years. There have been no deaths in our patients from the LAP BAND placement itself but 5 have died from causes such as heart attack and cancer in the years after surgery. A total of 225 have died in the group who have not lost weight. Once we adjust for the different length of follow up, age, sex and weight differences, the risk of dying has been reduced in the LAP BAND group by 73%. The obese group had 4 times the risk of dying during the follow up period.

This is a very powerful effect. Hopefully, when this report is published it will cause the health care providers and administrators to take notice of the potential benefits of the LAP BAND. We often hear in the press about another "breakthrough" in medicine when a new treatment is able to achieve a 20% improvement in survival over the existing treatment. In this case there is a 400% increase, 20 times more powerful than some of the other breakthroughs.

Quality of Life

Obesity has a major impact on the physical, psychosocial and economic health of patients and thus we could expect that it reduces the quality of life. But how can we know? How can we measure quality of life? Fortunately there are now quite a number of ways of doing this which are easy to do and have been shown to be valid measures. The most broadly accepted is a set of 36 questions known as Medical Short Form (36) Health Survey or, more briefly, the SF-36. This questionnaire can measure quality of life across a range of health conditions. We have used the SF-36 to assess the quality of life in obese people and the changes that occur with weight loss after the LLAP BAND. In one study (study # xx) we tested 459 patients before operation and then annually for four years. In the obese people all measures

of the SF-36 were significantly lower than the general community, indicating a markedly reduced quality of life. The values were equivalent to the reduced quality of life that can be measured in people with extensive cancer, crippling arthritis or stroke.

At the end of the first year after the LAP BAND, all measures had returned to the normal values for the community as a whole and they remained so for the four years of the study.

However perhaps the best demonstration of the improvement in quality of life comes not from the dry science of our research but from the stories my patients tell me about the simple pleasures they recognize after weight loss:

Being able to cross your legs when sitting

Spending all day in the garden without having to stop every 15 minutes

Not being the fattest person in the room

Being confident enough to apply for a job and look forward to the interview

Not being scared of trying on clothes where the label says "one size fits all"

Going into good clothing shops and being offered assistance instead of being ignored

Going out to dinner and ordering an appetizer only, knowing that it will be more than enough

Looking forward to going to a party

Having acquaintances say to you "I heard you speak and knew it was your voice but I didn't recognize you"

Having your husband say how good you look and when he looks at photos of the "old" you, says that he can't remember you looking the way you did

Forgetting you have not eaten

No longer dreading the school reunion.

Not thinking about food

Having the odd food treat and not feeling guilty

Being able to walk for hours without chafing

Being able to do up the seat belt on an plane without the embarrassment of having to ask for an extension

Feeling energized

Enjoying moving. Springing out of the chair instead of levering yourself out

Keeping up with people walking, especially my husband who takes big strides

Sitting on the floor, cross legged

Dancing; no longer being the fat one in the corner.

Getting down on the floor to play with the kids

Knowing that your health has improved and that the good life you have has been extended

Summary

I have given you a lot of information about the studies we have done and access to more detail on the DVD. These studies are provided to give you a summary of the remarkable health benefits that have occurred for our patients. These results have all been published or are about to be published in the medical literature after careful scrutiny by experts. As a part of our commitment to keep in touch, we track our patients very carefully and are especially interested in the health benefits that are achieved. Substantial weight loss, as occurs after the LAP BAND, is the most powerful therapy we have in healthcare today. There is no drug or operation or other treatment that is close to the effectiveness of weight loss on a person with the disease

of obesity and its co-morbidities. To have a gentle, safe and reliable way of achieving this weight loss, through LAP BAND placement, is a great joy to me and a great benefit to my patients.