

EDUCATION AND HEALTH STANDING COMMITTEE

**INQUIRY INTO THE ROLE OF DIET IN
TYPE 2 DIABETES PREVENTION AND MANAGEMENT**



**TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
WEDNESDAY, 31 OCTOBER 2018**

Members

**Ms J.M. Freeman (Chair)
Mr W.R. Marmion (Deputy Chair)
Ms J. Farrer
Mr R.S. Love
Ms S.E. Winton**

Hearing commenced at 10.04 am**Professor JEFFREY HAMDORF****Consultant Surgeon, Bariatric Surgery, examined:****The CHAIR:** Thank you very much for coming.**Prof. Hamdorf:** Thank you.

The CHAIR: On behalf of the committee, I would like to thank you for agreeing to appear today to provide evidence in relation to the committee's inquiry into the role of diet in type 2 diabetes prevention and management. I introduced myself before: my name is Janine Freeman and I am the Chair of the Education and Health Standing Committee. Bill Marmion and Shane Love are here too. Ms Josie Farrer and Ms Sabine Winton send their apologies; they could not be here today.

It is important that you understand that any deliberate misleading of this committee may be regarded as a contempt of Parliament. Your evidence is protected by parliamentary privilege; however, this privilege does not apply to anything you might say outside of today's proceedings. Would you introduce yourself for the record for Hansard? Hansard is taking the record.

Prof. Hamdorf: Thank you for having me here and thank you for the introduction. I understand my role adequately, I believe.

The CHAIR: Yes, that is great.

Prof. Hamdorf: I am Professor Jeffrey Mark Hamdorf. I am a Professor of Surgical Education at the University of Western Australia. I have a medical degree from this university as well and a Doctor of Philosophy, so a PhD, in Surgery, and I am a Fellow of the Royal Australasian College of Surgeons. My principal role in life is as a surgeon. I am a general surgeon but I have subspecialty training in upper gastrointestinal surgery and, as it turns out, bariatric surgery as well. I am a career academic; I have worked for the university forever whilst my clinical role and my professional role as a surgeon runs in parallel. They work together quite nicely, as it turns out. I was the inaugural Professor of Medical Education for UWA, and two years later I handed that back and became the inaugural Professor of Surgical Education. Most of my time is spent in training and education of tomorrow's surgeons as well as today's medical students—tomorrow's doctors.

As far as bariatric surgery is concerned, I am on the board of ANZMOSS, which is the Australian & New Zealand Metabolic and Obesity Surgical Society. I chair education and training as a portfolio for that group; I was the convener of this year's annual scientific meeting, which was in Melbourne in August. I am a member of the national taskforce for public bariatric surgery. I represent Western Australia and the education portfolio on that. I was a member of the Australian Obesity Management Algorithm group, which was convened by the Australian Diabetes Society, and which set out to provide an algorithm to guide GPs in the management of obesity and actually, most importantly, type 2 diabetes. That was produced a couple of years ago. This is an algorithm that we actually produced for GPs, and you are welcome to have a copy of it if you wish.

The CHAIR: Yes, please. That would be good.

Mr W.R. MARMION: Yes, absolutely.

Prof. Hamdorf: So that was published in November 2016 and it has been taken up pretty well.

The CHAIR: In terms of —

Prof. Hamdorf: Sorry, can I keep introducing myself, just for the record?

The CHAIR: I think you did introduce yourself but you —

Prof. Hamdorf: I have not finished yet.

The CHAIR: Yes; keep going.

Prof. Hamdorf: I have an international role as well.

The CHAIR: Okay. Please keep going.

Mr W.R. MARMION: Yes, keep going, yes.

Prof. Hamdorf: I sit on IFSO, the International Federation for the Surgery of Obesity, and have been until last month the Asia–Pacific representative on the scientific committee. I wrote the model of care for bariatric surgery for Western Australia, and that was through the health department, through the network branches. I convene a state group which is interested in bariatric surgery as an educational role, and I run one of the world’s busiest simulation centres—a surgical training centre—at the university, where we run courses to teach surgeons how to do bariatric surgery safely. I do lots of research as well in this area and in other areas relating to surgical education. I have got more but I think I will stop there.

The CHAIR: No, no, please keep going if you need to.

Mr W.R. MARMION: You seem like the world expert.

The CHAIR: I am just wondering when you get a chance to sleep, but please keep going.

Prof. Hamdorf: I have got too many children so it is actually better at work for me! I was employed at Sir Charles Gairdner from 1995 until 2008 as a consultant surgeon, and I set up the state’s first public bariatric service there. That was under the imprimatur of the previous Chief Medical Officer, when it was Bryant Stokes, actually.

The CHAIR: Yes.

Prof. Hamdorf: I have had quite a bit to do with public and private bariatric surgery. I stepped down from Charlies when I took on a substantive position at the university, and my practice is in the private sector, out of Hollywood Hospital generally.

The CHAIR: So, the common types of bariatric surgery—do you want to give us a brief explanation of those?

Prof. Hamdorf: There are three that are performed in Australia with any frequency. I will start with the gastric band because most people have heard about it.

The CHAIR: Yes.

Prof. Hamdorf: It is where an inflatable silicone band is placed around the top part of the stomach, limiting intake. It is attached to a subcutaneous or a port under the skin. It is a closed hydraulic system. A needle goes into the port and it can make the band tighter or looser, and this limits intake. These were very popular. This was the gold standard back in 2005 to 2010. It has fallen out of favour for a number of reasons, and its role in the management of type 2 diabetes is most limited.

[10.10 am]

The CHAIR: Why is its role in type 2 diabetes limited?

Prof. Hamdorf: You have seen the title of our organisation is Metabolic and Obesity Surgery. The gastric band is pretty good for modest weight loss, but its metabolic function is less. This helps diabetes through calorie restriction. Basically, you can take in fewer calories if you follow the rules; and diabetes generally gets better.

The CHAIR: Yes.

Mr W.R. MARMION: Just on the band on that diagram, before you put it down—you have got it up near the top.

Prof. Hamdorf: Yes.

Mr W.R. MARMION: Can that band be put anywhere or is there diagnosis —

Prof. Hamdorf: It needs to be within three centimetres of the oesophagogastric junction to provide a small enough pouch so that satiety occurs early. Satiety is that full feeling we get when we eat; so we do not have to fill up all of this to get the full feeling that tells us to stop eating. Patients of course have to listen to the message: stop eating, you have had enough. There are many ways to beat the band. Fluid goes straight through. Chocolate is a fluid when we swallow it. Patients have to follow the rules. Compliance has to be extraordinarily structured. It has to a large extent fallen out of favour, but in diabetes its role is limited.

The CHAIR: Can I just ask you one more question about the gastric banding? Can that be done by keyhole surgery or is that still —

Prof. Hamdorf: Every operation I am showing you is a laparoscopic or keyhole operation.

The CHAIR: Okay. So then it has that aspect of not being too invasive.

Prof. Hamdorf: Super safe, minimally invasive. Long-term concerns—we have 20-year data on this device showing 40 per cent success.

The CHAIR: For gastric banding?

Prof. Hamdorf: Yes. It is a fantastic operation in selected patients.

Mr W.R. MARMION: Can I ask a question still on this type one? Prior to that, I know someone who had, I think, this surgery in the early 1980s. Would that have been invasive, cutting open?

Prof. Hamdorf: It was quite invasive in the early 1980s. It would be open surgery. It was an operation in which there was partitioning of the stomach and an inelastic band; so an unadjustable band was put around the top part of the stomach. It was called a stapling.

Mr W.R. MARMION: That is it, yes.

Prof. Hamdorf: Surgeons know it as a vertically banded gastroplasty, and they have an 80 per cent failure rate.

The CHAIR: Wow.

Mr R.S. LOVE: How many?

Prof. Hamdorf: An 80 per cent failure rate, we found, in the longer term. Now, 40 per cent pertains to complications from the surgery with excessive scar tissue, so the patients were rendered only able to take a slurry; and staple line blowout as well, and it did not satisfy them. The human factor is you are driven to eat and there is —

Mr W.R. MARMION: I remember it was called stapling, yes, that is right.

Prof. Hamdorf: Yes, okay. That is where the next operation comes in, which is the most popular operation in the world, and it counts for 70 per cent of cases in Australia—or it did in the last financial year. It is called the sleeve gastrectomy. Please do not think it is the idea of putting a sleeve around the stomach. It is a near-total gastrectomy; 85 per cent of the stomach is removed.

The CHAIR: Out of the body?

Prof. Hamdorf: Gone—in a bucket.

The CHAIR: But it is through keyhole surgery?

Prof. Hamdorf: Yes.

The CHAIR: Wow. So you just suck it out, do you?

Prof. Hamdorf: The empty stomach is quite deformable and the human body is fairly flexible.

The CHAIR: Yes, yes.

Prof. Hamdorf: I am able to remove that stomach through a 15-millimetre hole.

The CHAIR: Wow. That's amazing, isn't it?

Prof. Hamdorf: You did not want to see too much gore, but I could have shown you some —

Mr R.S. LOVE: Please don't. Just talk about it.

Prof. Hamdorf: So, that is what is left behind. You are left with a tube instead of a stomach. The stomach is a capacitance organ—you know, Christmas Day it allows you to take up to a litre or a litre and a half in volume. We get a tremendously full feeling, but the stomach stretches. It is tremendously compliant. This stomach, we gauge the size of it by passing a tube, which is roughly the size of my little finger, 12.3 millimetres across, and then we staple up against it and remove everything on that side. So, that is the resected stomach.

The CHAIR: That is the gone stomach?

Prof. Hamdorf: That is the gone stomach. Now, look, it is collapsed when we take it out, but I backfill it with gas or air to show people so I can take a photo and say, "How good is that? That's how much we've removed."

Mr W.R. MARMION: Shane loves it.

The CHAIR: I had a baby; I can cope with all of this, yes.

Prof. Hamdorf: Sure. It is not too gory, is it?

The CHAIR: No. I am good, yes.

Mr W.R. MARMION: No, it is fine.

Prof. Hamdorf: I will show you the cartoons. So this is a sleeve gastrectomy. It is very popular.

The CHAIR: So, that means that when the food enters it, it is much smaller and so you get that feeling of fullness, but does it mean that you are restricted in what you eat?

Prof. Hamdorf: Absolutely. The volume that you can take is restricted, and for the first three months to five months our patients are restricted to between a quarter of a cup and half a cup of solid food per meal. We spend a lot of time helping them understand that they are not to take fluids in preference; it is low calorie fluids plus good quality food. Stomachs stretch—we know stomachs stretch—and this stomach stretches up over the course of three to four years. So we see an enormous loss of weight initially and then partial weight regain, generally in the order of 10 per cent, which we seek to manage with our patients. Some patients, generally because of psychological concerns—there is a psychological term called "dichotomous thinking". That is where people think in black and white: "I am either on a diet or I'm off it; I'm either good or I'm bad; if I'm going to be bad, I'm going to blow out." These patients can stretch out a lot more. This is where psychology comes in. I will get to psychology a bit later, but the patients who choose, unfortunately, to overeat for whatever reason will stretch out more, will regain more weight, and often come to us asking for perhaps another operation.

The CHAIR: Wow.

Prof. Hamdorf: Which is sad and disappointing.

The CHAIR: Yes. How effective is that operation in treating type 2 diabetes?

Prof. Hamdorf: Wonderfully effective. I will come back to that shortly when we compare them. This is the other operation —

Mr W.R. MARMION: You give us a third one, yes.

Prof. Hamdorf: — which is around, it is called a gastric bypass. You can imagine you take the stomach and then divide a small pouch at the top—that pouch might measure 30 millilitres—and then you cut the bowel down below and you bring the bowel up and join to that 30 millilitre pouch, and then rejoin the bowel down below. This, from that join to that join, is actually two metres.

The CHAIR: Okay. So that is the small intestine you are attaching it to?

Prof. Hamdorf: That is right. The food that is swallowed gets held up in the small pouch, so it is a very small amount of food goes through, but when it does leave the stomach, it has to travel two metres before it meets the digestive juices. That is why it is called a bypass; it bypasses the opportunity for digestion. A big operation, high risk, and fantastically effective.

The CHAIR: Still keyhole?

Prof. Hamdorf: Yes.

The CHAIR: And that risk, because you have to bring the small intestine up and —

Prof. Hamdorf: More surgery, greater impact on the body metabolically and physiologically, more work inside, so greater risk of complications down the track.

The CHAIR: Okay.

Mr W.R. MARMION: So, you have done a bypass. What happens to the bit that you bypassed?

The CHAIR: You just leave it there.

Prof. Hamdorf: It just stays there, fallow.

Mr W.R. MARMION: It does not do anything?

Mr R.S. LOVE: Fallow.

Prof. Hamdorf: It lies fallow.

Mr W.R. MARMION: Is that dangerous?

Prof. Hamdorf: No.

Mr R.S. LOVE: That is a new meaning for the word “fallow”.

Prof. Hamdorf: Well, it is an entirely appropriate meaning as well.

Mr R.S. LOVE: What is the difference in the metabolic effect of the three operations? You were talking about the first one had no metabolic —

Prof. Hamdorf: Okay. If we just use diabetes as an example, we should forget about the gastric band. It turns out if you are interested in the public purse, this is not the best one to use in the public sector because the follow-up is extraordinary. I did about 500 of those at Charlies and I created a behemoth in terms of the absolute need for regular follow-up in a specialist centre.

Mr R.S. LOVE: Okay.

Mr W.R. MARMION: Big cross on that one then.

Prof. Hamdorf: We do not talk about super clinics anymore, do we? Ideal for a super clinic.

Mr W.R. MARMION: Okay, yes.

Prof. Hamdorf: Of these two, actually the differences in their metabolic effect on diabetes are not substantial, and that has been shown in a couple of really nicely controlled studies that show patients who had a sleeve gastrectomy—which is lesser than a bypass—actually do very well. So, we are talking about in 12 months, patients, more than 50 per cent of them, get better from their diabetes, by which we mean if they are on insulin, they will be off insulin, or if they are on oral medications, they might be off oral medications or they are on a lesser dose to achieve normal blood sugar levels. If we get a patient in their first five years after diagnosis of type 2 diabetes—and the data suggests out to eight years—the diabetes is generally controllable without medications and the risk of complications, which matches the control, is low.

The CHAIR: But this one, the sleeve is—well, not easy, but it has less complications and probably less cost, but the risk is that you will stretch your stomach out again?

Prof. Hamdorf: That is right, sure.

The CHAIR: Whereas with the bypass, you cannot stretch it?

Prof. Hamdorf: Look, yes, there can be problems with it, but surgery improves with every cycle. This pouch here looks really short; now in fact the pouches are a lot narrower and longer, and the risk of stretching those pouches is now less. We are eagerly awaiting better results to come through, but the data suggests that the fantastic control of diabetes is out to 8.3 years; that is what has been shown.

[10.20 am]

The CHAIR: For the bypass?

Prof. Hamdorf: For bypass. The sleeve we have got five-year data on; we do not have eight-year data on that.

The CHAIR: Yes, okay. But which is more effective? Or is it just a choice?

Prof. Hamdorf: The differences between them are marginal. They are roughly equivalent and I would —

The CHAIR: But less complications with the sleeve?

Prof. Hamdorf: Yes, less complications, safer to do and —

Mr R.S. LOVE: And the cost between the two?

Prof. Hamdorf: Look, the costs are almost identical, Shane. It is the same stay in hospital. There is one other factor: multivitamins or micronutrient support is mandatory on a daily basis after this. So a patient who cannot be trusted —

Mr R.S. LOVE: The follow-up is greater.

Prof. Hamdorf: I cannot offer one of these to a patient who cannot be trusted to take their multivitamins every day. This is desirable, but mandatory. So, the stakes are a bit higher with the bypass procedure.

The CHAIR: Okay. Type 2 diabetes, with either of those operations, even before your weight loss has occurred, can decrease, can it not?

Prof. Hamdorf: Yes.

The CHAIR: Why does that happen?

Prof. Hamdorf: I actually put a paper out—here are the 150 factors involved in that question. So step 1 is that we know —

Mr R.S. LOVE: Well, you can leave the paper with —

Mr W.R. MARMION: With the staff.

Prof. Hamdorf: Right. I will leave the paper, it is actually a very beautifully written paper and it —

Mr R.S. LOVE: You can tell us the three main ones.

Prof. Hamdorf: Okay. Calorie restriction occurs with any operation that you do on the stomach, and so that principally is calorie restriction.

The CHAIR: Before you have the operation?

Prof. Hamdorf: Yes, we do actually restrict calories before surgery, but that is for a different matter. After surgery, there is an effect on the bile acids. There are lots of factors from the gut which are really important in what we call glucose homeostasis—the ability for our body to maintain a regular glucose level. We do not have to wait for fat to disappear, because fat is the big enemy in terms of insulin resistance. Bile acids change after a bypass and change after a sleeve gastrectomy so that the formation of secondary bile acids, which have an uptake effect on glucose, work better. The microbiota changes. So, you may be aware that our bodies contain trillions of bacteria.

The CHAIR: Yes.

Prof. Hamdorf: Hopefully mainly for the good. Studies have shown that normals versus gastrectomy patients versus bypass patients have different profiles of bacteria in their system. The bacteria have a role in glucose homeostasis, in the ability for us to uptake glucose from the gut and use it wisely for nutrition. The stomach, after the sleeve gastrectomy and the bypass, dumps glucose into the intestine more quickly—otherwise it sits in the stomach—and rapid uptake is more often associated with rapid delivery into the tissues.

Prof. Hamdorf: There is another factor called GLP-1, glucagon-like peptide-1, which is released by the small bowel and improves the uptake of sugar from the diet. Improved uptake means less opportunity for the blood to be exposed to the fat where there is insulin resistance. There is a whole bundle of factors involved. As a surgeon—I am in charge of cutting things out—this is high-level metabolic stuff that perhaps Professor Tim Davis could have shared with you; this is his core business.

The CHAIR: It is still pretty invasive to do surgery, but type 2 diabetes has such an enormous impact on the public health system and the health system entirely. At which point do you make the decision in a public health setting to say, “Actually, the cost–benefit here is to offer surgery versus not.”

Prof. Hamdorf: Ledgers aside, the cost of surgery for type 2 diabetes in a population is recovered within 18 months.

Mr W.R. MARMION: So someone has done their NPV? Who has done that?

Prof. Hamdorf: You probably have to look at the PricewaterhouseCoopers paper that came out on that. PWC did a study on this, and there is international data as well. The worst thing about Australian health systems is that the state health dollar is paying for surgery. The complications of obesity and diabetes are outpatient complications, and they are paid for by the federal purse. So your investment in more surgery saves the federal purse. Having a binary health system is illogical and it is counterintuitive and counterproductive for our patients.

The CHAIR: I understand that in the US, because the health system is so dominated by insurers in health insurance, there is almost a point at which the health insurers say to people that they now

have to have a bypass, otherwise they will not cover them in their health insurance any longer. Is that the case?

Prof. Hamdorf: It is almost like that. In 1991, the National Institutes of Health, which is the lead body in America in terms of health advisory services, sat down and a consensus statement was drafted. It said that patients with a BMI of over 40 should have an operation to reduce their weight, providing they have a healthy lifestyle and have a team looking after them. Patients with a BMI over 35 with complications of obesity should have an operation, blah, blah, blah. Those parameters, those cut-off points, have been taken up by the world because the NIH is a lead body, and the decision as to where to put the cut-off point was based on the ability of the providers to pay. So the actuaries decided where the cut-off point would be. In Australia we have a little bit more freedom here. We know that someone whose BMI is between 30 and 35 and has a metabolic illness like type 2 diabetes should be considered for surgery. We say that over 35 with poorly controlled type 2 diabetes, surgery is indicated, and over 40 it is mandatory. That is what the guidelines that we adhere to say.

The CHAIR: And do they get it? If you have an over 40 BMI do you get a —

Prof. Hamdorf: This is where we have to say, “Okay, how can we afford to pay for this? Are we potentially opening a floodgate?” Number one: unless patients follow rules and adhere to treatment advice, it is futile doing surgery. If they are not part of the team, it is not going to work. Then we have to have the capacity to pay for it, and they have to be well enough to be considered for surgery. They should not be high risk. They need to be motivated and the system needs to be able to support them.

Mr R.S. LOVE: When you say “high risk”, is that just too fat?

Prof. Hamdorf: The risks involved include overall weight and our ability to mechanically care for someone. If you can imagine, I see patients who are more than 120 kilograms overweight. If you put them to sleep for an operation, the ability for the anaesthetist to control their respiration is really challenged—just getting the breathing machines to push a chest wall at that level. They may have difficulty perfusing tissues, and diabetes, being a metabolic disease, causes problems with healing. If a diabetic comes to me who is already losing sight, has kidney disease or has lost toes, we have to say, “Hey, it may be too late. I do not know that we can actually heal a wound in you. And if I operate on your stomach and that breaks down because of poor healing, we are in catastrophic trouble.” For high risk patients, we should be very circumspect about what we do for them.

The CHAIR: You are almost better to get them before they become high risk.

Prof. Hamdorf: Absolutely.

The CHAIR: But what is the waiting list like?

Prof. Hamdorf: There is only one service that offers public surgery in Western Australia. That is based at Joondalup Health Campus. My understanding is that the waitlist is in the order of five years to be seen.

Mr W.R. MARMION: Five years?

Prof. Hamdorf: In the order of five years to be seen.

The CHAIR: To be seen?

Prof. Hamdorf: To be seen!

[10.30 am]

The CHAIR: What is the waitlist for operation, do we know?

Prof. Hamdorf: It is generally a year to a year and a half after that, I think. I cannot be quoted on that. I do not have access to those data, but that is what I hear back from other doctors.

The CHAIR: If you are five years into your diabetic journey, you probably come into the risk category by that stage, unless you have been able to do other things.

Prof. Hamdorf: The ideal patient is to operate on them in the first year that they develop diabetes. Actually, we are looking for patients with what is called pre-diabetes. There are different criteria depending on which country you are in, but anyone with a glycosylated haemoglobin of above 5.8 per cent, we love that because we can fix that immediately.

The CHAIR: When you say that you can fix that immediately, you book them in: do you ask them to lose weight beforehand?

Prof. Hamdorf: It is never that easy.

Mr W.R. MARMION: What is a good fast-track patient?

Prof. Hamdorf: Fast-track for me, in the private sector, is six to eight weeks. That is the fastest track I will do. Patients in our care are in our care lifelong. It is a lifelong commitment from both of us, so I need to know that we are not taking on someone who we cannot work with. This is a private clinic, and ours is amongst the most strident, in terms of its demands of patients, in Australia. They come and see me. Then they come back and see a GP with an interest in bariatric care. I have three GPs who work in our practice. They come back and see a dietician and they come back and see a psychologist. Providing everyone approves of the patient and considers them suitable, and the patient is happy with what is going on—we do an extensive investigation on them to make sure that they do not have reversible, correctable problems—then they come back and see me, and then we plan for surgery to take place. If they are super motivated and super keen, six weeks is about as short as I am prepared to do it. They need to go onto a diet pre-operatively, which is what is called a VLED or a VLCD, which stands for very low energy diet or very low calorie diet. You have probably heard of products such as Optifast and Optislim, so two weeks of those, and that is guided by my dietician.

The CHAIR: Is that an every meal replacement?

Prof. Hamdorf: No, it is guided by the dietician. It is generally two plus one, and the one is a steamed protein with some salad. It is all guided and the patients do not mourn food too much in that respect. The intention of that diet is to shrink the liver. It has been shown in studies that the liver can shrink by between 600 and 1 000 mls with two weeks of Optifast.

The CHAIR: Why do you want to shrink the liver?

Prof. Hamdorf: Because the top part of the stomach is hidden by the liver, so it has to be lifted out of the way to see what is going on. You want me to come back with a video don't you! I can tell.

Mr W.R. MARMION: I got the picture!

Prof. Hamdorf: A fatty liver is at risk of being damaged. If it is packed with fat, it is fragile. As we lift it with an instrument, in the most gentle way, it can rupture. It is messy.

The CHAIR: It smells!

Prof. Hamdorf: It does not smell because it is keyhole surgery. We can lift the liver out of the way, but it is easier and safer for the patient.

The CHAIR: Not that this has anything to do with what we are talking about, but what happens if your liver ruptures?

Prof. Hamdorf: Janine, we fix it. That is what we do. We have a variety of different techniques for fixing problems if they occur. The risk of an injury to another organ during this operation is 0.5 per cent or less; it is really super safe surgery.

Mr R.S. LOVE: When you talk about reducing the size of the liver, you are talking about the fat on the liver —

Prof. Hamdorf: That is exactly right.

Mr R.S. LOVE: So you are actually taking the fat out of the liver.

Prof. Hamdorf: Going onto a very low-calorie diet, the body mobilises the fat out of the liver. A very low-calorie diet includes 800 calories per day. It is the least that we need, and essential amino acids and all of that are provided in that. So the body mobilises fat to provide energy through a process called gluconeogenesis. The fat is dragged out of the liver and converted to sugar to run the body. The brain needs lots of glucose to keep it going. Mobilising the liver is easier than mobilising fat and easier than mobilising muscle. So the body can break down its own muscle.

The CHAIR: Do you ever have a situation where you put someone on a low-calorie diet, such as the Optifast, with the help of a dietician, and then they go into remission and you decide not to do the surgery at that point in time?

Prof. Hamdorf: Absolutely. I have one at the moment who has quite severe diabetes. Her BMI is 35–36. She had surgery planned and during our work-up we diagnosed a lymphoma on her. I said, “Okay, off to see a haematologist to look at the lymphoma.” That was sorted out and he was quite happy with it. The weight loss was doing her lymphoma good. The chronic lymphomas did not need chemo or anything like that. She came back to us. We had her booked for surgery and she developed cellulitis, which is an infection of the subcutaneous tissue of the legs; obese people get it, and diabetics particularly. So we cancelled her surgery and spoke to her GP. Six weeks down the track she is still on the VLCD. Her weight has come down. Her BMI is down to 33 or so and her diabetes is actually under good control. We have thrown in another medication called liraglutide, also known as Saxenda. It is injectable and is \$100 a week. It is really expensive but is actually really effective in some patients.

The CHAIR: For diabetes?

Prof. Hamdorf: Yes, it is a GLP-2 analogue—that is just physician stuff, okay. We have got her humming along. Whilst her BMI is down to 32 and she has better control of her diabetes—you are now aware of the glycosylated haemoglobin as an index. She came to me with a glycosylated haemoglobin of 12 per cent. I said that we had to get that improved because I would not operate on someone with the glycosylated haemoglobin above 10 per cent. I said, “We have to get that better before I can operate on you,” and all this other stuff happened. But now it is down towards eight, so she has had a marked improvement with better quality medication.

Mr W.R. MARMION: And she had a weight loss as well?

Prof. Hamdorf: Yes. Her BMI has come down from, I think, 35.5 to about 32. Surgery is still considered, but I am getting a little less excited about surgery with her.

The CHAIR: Is weight loss always a predictor of diabetes remission?

Prof. Hamdorf: No. For about half of our patients, their weight loss improves their diabetes. There are nine different clusters, nine different subgroups of type 2 diabetes, and there are some in whom weight loss just does not work. It is way beyond my knowledge set and my expertise —

The CHAIR: But it is for the majority?

Prof. Hamdorf: Absolutely.

The CHAIR: So in terms of a public health campaign, you can be pretty confident that if you had weight loss in the general community, you would be assisting in terms of diabetes?

Prof. Hamdorf: Over 90 per cent of patients improve with weight loss. Getting the amount of improvement that satisfies a surgeon is a separate issue. We as surgeons expect fantastic results because we invest a lot in what we are doing. It is a really big deal and, of course, it is an expensive exercise.

The CHAIR: Are you able to say how much it costs?

Prof. Hamdorf: The surgery costs around \$22 000 to \$25 000.

The CHAIR: That is in the private system?

Prof. Hamdorf: That is right.

Mr W.R. MARMION: And that is just for the surgery or operation?

Prof. Hamdorf: No, I am a gap-free provider. I will operate for whatever HBF says I am worth, and that is fine by me. The cost is going into the hospital and paying for a bed, paying for an operation, paying for consumables. Every staple firing is \$700. The companies are doing really well out of this.

Mr R.S. LOVE: For how long does that follow-up occur?

Prof. Hamdorf: Follow-up with me is indefinite. For example, we will see our patients 20 times in the first year in our clinic. We have a big clinic. We are across the road from you; you might visit us and have a look.

The CHAIR: That would be good.

Prof. Hamdorf: We have a surgeon, dietician, psychologist and GP working at the same time. We have actually spent the money investing in a super clinic of our own so I do not send people off elsewhere. I do send them off for exercise physiology because I am not putting in a gym! We send them off for outsourced exercise physiology; otherwise everything is in-house.

The CHAIR: Where do you do the surgery?

Prof. Hamdorf: I am at Hollywood, which is the busiest. St John's Murdoch and St John's Subiaco — there is quite a bit at Joondalup on the private side. There is quite a bit happening in Bunbury. There are centres; we have —

The CHAIR: Are there any in the remote areas, further north?

Prof. Hamdorf: No. This is surgery that needs to be undertaken in a centre. We have surgeons travel to the remote centres to sort out patients, deal with them there, engage with them with as much local care as we possibly can, but they generally need to come to Perth for their surgery.

Mr W.R. MARMION: It is keyhole surgery?

Prof. Hamdorf: It is keyhole surgery — laparoscopic surgery. It is safe: 97.6 per cent of our patients have no adverse events.

[10.40 am]

The CHAIR: In the public system, you have the surgery, and then the follow-up you give, which is comprehensive and lifestyle-based, treatment-based —

Prof. Hamdorf: Coaching.

The CHAIR: — with coaching. If you have got into the public system, you have been seen after five years, you have your operation a year later, what happens to you then?

Prof. Hamdorf: At Joondalup the arrangement was that it was outsourced to a private clinic where Medicare cross-fertilises. There are arrangements where private clinics are prepared to accept the Medicare fee. But that is just cost-shifting between one system and another.

The CHAIR: In terms of Aboriginal communities, which, have really high rates of diabetes, are you aware of the incidence of bariatric surgery?

Prof. Hamdorf: Much lower.

The CHAIR: Is that just because they do not have access to the private health system?

Prof. Hamdorf: That is exactly—access to the private health system is limited. The few Indigenous patients who have come through my practice have done very well, but the majority do not have access; it is about equity.

The CHAIR: You said you were an HBF no-gap provider for your services. Does private health cover all of it? How much is that worth?

Prof. Hamdorf: Not at all. What really ought to happen through the MBS is that there ought to be an item number for the team care of a bariatric patient. I could operate on someone tomorrow without preparing them and get the same amount as I do for spending weeks preparing them, and that is just wrong. For a patient to access some sort of benefit for dietetic care, we need a letter from the GP which invokes an EHCP. The same with the psychologist. But not everyone has an axis V mental health disorder, or whatever it is, that allows them to access a care plan. My patients have eating disorders which generally do not qualify. Our GPs are on the standard GP schedule. We have a fair administrative load around that. A fee is charged in the private sector—it is an up-front fee—and when the patients come and see us they get a rebate to go to Medicare and they actually get a refund along the way. We kind of hoped that was an incentive to get them to come back and see us.

The CHAIR: If you have bariatric surgery and you keep drinking Coke, that is obviously the liquid that still gets through —

Prof. Hamdorf: It will fail. There are any number of ways that bariatric surgery can be beaten. This is where psychology comes in. The role of our psychologist is principally to identify patients with mental health disorders that will preclude a successful outcome—so suitability. But then, it is to help them negotiate the speed humps of life. Some people, when they are stressed or when something bad happens to them, will exercise; some people go and have a drink; some people go and have something to eat, and the eating tends to be comfort food. I think you will be aware that comfort food tends to be high calorie, low residue, whether it is ice cream or chocolate. Our patients often have trouble saying no, so this is impulse control. Impulse control can affect people in different areas. It might be alcohol; it might be gambling. We love making exercise addicts, but that does not happen very often! Impulse control is something that can be terrible. The ability to say no to something is diminished in our patients, and that is almost certainly a neuropeptide transmitter issue up here, which we do not know how to fix.

Mr W.R. MARMION: This is a question I wanted to follow up with you. You actually answered a question I was going to ask. I was going to ask a question about the unsuccessful—the pre-surgery stuff, and obviously in my mind the psychology one was probably going to be the most important. I think you are answering the question. What if you are doing the psychology, and if the person does comfort eat and they tick all the other boxes, but you are really worried about them, who makes the call?

Prof. Hamdorf: The decision to have an operation is the surgeon's in consultation with the informed patient. That is where the buck stops.

Mr W.R. MARMION: But what will happen is that the psychologist might say, “There’s a 50 per cent chance this person is going to start drinking Coke and eat stuff”, and then you have to make a call, do you not?

Prof. Hamdorf: Psychologists do not use percentages like that, as you can imagine. What will happen is that the psychologist will sit down with me, and we have team meetings, we have individual meetings discussing patients. We try to care as much as we can. If there is a problem that looks potentially remediable, we will put a hold on things and we will we say, “Okay”—you have heard of psychotherapy, which is an individual, one-on-one with the patient, and it might be dialectic or cognitive—some sort of behavioural therapy where the patient and the psychologist develop a contract. “I really want surgery.” “I’m the gatekeeper to surgery. The contract is, you show me this and we’ll get you there.” But then that patient is under close scrutiny with a red flag on them for surveillance. So a patient is already seen twice post-op anyway. If they develop a problem, they come to us, fingers crossed.

The CHAIR: Do some not come to you?

Prof. Hamdorf: Fingers crossed. They come to us and we help them through it. I have a patient who is under our care at the moment. She consulted with me in April, and she said “Look, I’ve put all my weight back on.” I said, “Well, let’s go through it.” She has a gastric band in place. We worked out her portion size was 180ml. I said, “That’s fantastic. Tell me about your meals.” She said, “Well, I sit down and I eat for 90 minutes.” That is too long. Our patients should eat for 20 minutes, get up and find something else to do. Then we looked at her comfort eating. We looked at what she was eating. I said, “Look, I think your band is probably okay.” We checked it. We tested it. It is in a nice position. I got her back up—she is from [the country]—to see in one day the GP to look at her medically, a dietician to go through things with her and coach her again, and the psychologist sat down and talked her through how she deals with conflict, how she deals with people coming up and saying, “Aren’t you a bit fat?” It is a vicious cycle patients get themselves into.

The CHAIR: So, you still do gastric banding surgery?

Prof. Hamdorf: She is one from 11 years ago. No, actually it was seven years ago; it was 2011. I want to see my patients forever: “If there’s a problem with the band, a problem with your weight, please come back and see me.” We have our patients on annual recall, whether or not they choose to come. We will write to them three times and write to their GPs. We kind of hope they come back.

The CHAIR: In terms of the neuropeptides stuff that you were talking about, in terms of that impulse control, the capacity to say no and that sort of stuff, one assumes that through psychologists, but is there any research in terms of medication that can assist that or is that just beyond us?

Prof. Hamdorf: It is probably serotonergic as well. But the research at the moment is about discovery. This is the stuff we are learning about the way that the membrane gut interaction occurs. At the moment it is about discovery. I cannot wait for the drug that turns off appetite properly. It may be a ghrelin blocker but I cannot wait for that. I think it is a disgrace that we have to operate on people because of obesity. I think it is terrible. That is why I quite like putting bands in, because we can take them out and leave a normal stomach afterwards.

The CHAIR: Once they learn to eat differently?

Prof. Hamdorf: No, once we have something that works properly. There are very few patients who have a band removal with successful management, successful weight control, after that.

The CHAIR: We went to Adelaide and met with the CSIRO and while we were there we met with a biologist. The woman we met with was a biologist, Rebecca Robker.

Prof. Hamdorf: I know her work. I do not know her.

The CHAIR: She talked about the cellular structure of lipids and mitochondria and the fact that if you have diabetes, the impact in terms of the fatty aspect around it—cellular molecular—so you are actually born with an increased risk of being overweight.

Prof. Hamdorf: Did she get into epigenetics as well?

The CHAIR: Yes.

Prof. Hamdorf: That is really fascinating stuff.

[10.50 am]

The CHAIR: Yes. In the people that you have come across, and some people who have done all the diets and all that stuff, have you come across people who it does not matter how much they eat or do not eat or whatever, or is it always just about eating? I went to see a doctor at one stage and she said, "It's just what you put in your mouth."

Prof. Hamdorf: It is nowhere near that simple. But if you put our patients in a room with limited access to food, they will lose weight. But the way the body handles a portion varies between every single person. When our patients are given a portion control diet guide—and this is in the traditional model of supervised dietary care—"Here, you go away, follow this and you are guaranteed to lose this much weight." The guarantee is actually not there. We talk about a biological set point, and it seems that in some people, they are meant to be 120 kilos. No matter what you do, it will always be working back towards it. There is some data—and this is weak—to suggest that sleeve gastrectomy and gastric bypass can help reset the set point to a lower level, and that is fantastic when it happens; otherwise the body seeks to beat everything we do to it. So you will see weight regain with bypass, you will see it with band and you will see it with gastrectomy as well. We have to say, "Okay; surgeons should stop talking about their success in terms of weight loss and they should talk about success in terms of health-related quality of life." That means correction of medical complications and improvement in wellbeing.

The CHAIR: Could you have some sort of surgery—gastric surgery—still be quite weighty—so 120 is a large weight—but not have diabetes?

Prof. Hamdorf: Oh, yes; absolutely. I see people who are extraordinarily healthy at 160 kilos.

Mr W.R. MARMION: Are not sumo wrestlers supposed to be very healthy?

Prof. Hamdorf: Maybe you listen to the ABC Radio?

The CHAIR: Yes.

Prof. Hamdorf: Did you listen to talkback six weeks ago when I was on it?

The CHAIR: No, but we can find it probably.

Prof. Hamdorf: I brought a patient on it as well. I can say this because he was an ABC announcer. He started off at 190, 195 kilos. We got him to plateau at 130. He is still a big guy but he is metabolically very healthy.

The CHAIR: But he did not have diabetes to start with?

Prof. Hamdorf: No, he did not. He had hypertension and risk of heart disease.

The CHAIR: I suppose my question was more if you had diabetes and you have the surgery, can you have the reduction of diabetes and reduction in terms of going into remission but still be like this person of a large size?

Prof. Hamdorf: Yes. What we generally need to see is 10 to 15 per cent reduction in total body weight to see an improvement in the metabolic problems associated with obesity. If you are 200 kilos, 10 to 15 per cent means 30 kilos. It is astonishing how everyone is different in their make-up. But then we see diabetics of BMI 30 or 31.

The CHAIR: When you see them at BMI 30 or 31, which is not big, do you do surgery then?

Prof. Hamdorf: No. I sometimes operate on 34s, 33 and a half. If they are Asian, oriental population, we reduce it by 2.5 because they have a different muscle-to-fat ratio. Really, we have vigorous discussions about the mid-30s.

The CHAIR: One of our terms of reference is about culturally and linguistically diverse, so Asian parentage. Is there any other cultural heritage or nationality or African or anything like —

Mr R.S. LOVE: Aboriginal.

The CHAIR: We have talked about Aboriginal.

Prof. Hamdorf: Sure.

Mr R.S. LOVE: In terms of the BMI and the difference?

The CHAIR: Yes, the difference.

Prof. Hamdorf: No; the only BMI fluctuations or modifications is the Asian group—dropped by 2.5. We know the highest risk groups in our cultures, or in our country, is our first Australians. But Pacific Islanders—Tongans have a 60 per cent rate of diabetes. It is just —

The CHAIR: Yes, but is that not also high sugar? They got introduced to sugar —

Prof. Hamdorf: Yes. And India because of clarified butter—so ghee and white rice versus brown rice. India now is the diabetesity—it is called diabetesity—capital of the world.

The CHAIR: This may not be in your area of expertise, but we did have someone give us a presentation about the glycaemic index. If you had a capacity to say to someone who is Indian who is never going to stop eating rice, because that is culturally hard, but they can change their glycaemic index, are you aware whether that is a good dietary aspect to it or is that outside your —

Prof. Hamdorf: We look at multimodal inputs and I think just changing to basmati rice, which I think has a higher index, and considering changing to brown rice—“that is for poor people”— is a really smart thing to do. That would be advice that we would offer.

Mr W.R. MARMION: Can I get back on to the finance?

The CHAIR: Yes.

Mr W.R. MARMION: Let us say we are trying to solve this problem and we work out that we are not doing enough of these operations because there is a net present value of doing them and despite the fact there is a commonwealth–state problem that they tried to solve 15 years ago, so you decide that you are going to do more. The first question is: have you got enough surgeons? The second question is: how do you put a control on not going berserk with a whole lot of surgeons coming in and doing them and not doing what you do and having the really good up-front process?

Prof. Hamdorf: The public system is ideal for governing it. So the public system could be run by a physician who could be the gatekeeper. That is the model that has been set up in New South Wales in —

The CHAIR: They have got a model in New South Wales, have they?

Prof. Hamdorf: Concord hospital runs a model like that. I think they are with the RPA as well. I think they work across both sites. The gatekeeper is the physician. There is a concern that surgeons want

operate on everyone; there is a ring of truth to that. Surgeons, when they are operating, are happy! That is fine; I get that. I am a part-time surgeon, so I understand how my colleagues think. A good example is multidisciplinary teams for cancer—that you cannot get an operation on your stomach for cancer or oesophagus or breast unless your case has been presented to a multidisciplinary team. That keeps records and the team decides what the treatment ought to be. Clearly, the surgeons are heavily involved in those sorts of processes. A multidisciplinary team is what we use in our private practice and it works well because we have a database where everyone has to agree and so a checklist takes place.

The CHAIR: New South Wales has a model that we should have a look at. Is there any country in the world that has a good model in terms of bariatric surgery?

Prof. Hamdorf: The Brits are actually doing it quite well now.

Mr W.R. MARMION: Whereabouts in Britain?

Prof. Hamdorf: Most of the centres that—once the national health—access is again the issue, but the model is good.

The CHAIR: What about access? Is there any country in the world that has good access in terms of a public health system? What about New Zealand? What are they like?

Prof. Hamdorf: New Zealand has no public access—almost no public access—so it is disastrous.

The CHAIR: Which is pretty hard if you have got Maori. Do they have similar problems in terms of the Pacific Islanders?

Prof. Hamdorf: Yes. Australia has, I think, 210 bariatric surgeons. New Zealand —

The CHAIR: It is not very many, really.

Prof. Hamdorf: New Zealand has 14!

The CHAIR: Wow.

Prof. Hamdorf: It really is elitist stuff over there, so the access is really miserable. They are part of our organisation; I know them. They are good guys; they do the right thing, but it is private.

The CHAIR: What about Denmark or Sweden or places like that? Denmark has a diabetes specialist area. Do they —

Prof. Hamdorf: Sure. The numbers that are undertaken in these countries are small. If you look at throughout the developed world, the proportion of patients who are accessing bariatric surgery is less than one per cent. The proportion of patients who are eligible is less than one per cent. Western Australia bats above its average. I think we are at 1.48. I think that is the data that came out in the Australian Institute of Health and Welfare report.

[11.00 am]

The CHAIR: Okay. What would be an ideal percentage of the people who are eligible?

Prof. Hamdorf: I think we have to be smart about this introduction and choose the target groups you are looking at. We would look at low-hanging fruit and I think 10 per cent to start with. You would roll it out, because with appropriate surgery, we are not treating the complications, so the joint replacement rates go down, the heart disease intervention rates go down. I feel embarrassed when I see my orthopaedic colleagues replacing joints on patients whose BMI is greater than 45. I think that is just sad. I have not thought through the figures exactly —

The CHAIR: No, no; that is fine.

Prof. Hamdorf: — but you would start at five per cent one year, looking to build to 10 per cent over three to four years and then build to 15 or 20 per cent after that.

The CHAIR: How would you counter the criticism that it is invasive?

Prof. Hamdorf: It is minimally invasive. It is not mutilating. My patients are doctors, lawyers, judges, surgeons, schoolteachers, the occasional member of Parliament, whether that is federal or state. These are people who are working productive lives now because they have had this minimally invasive surgery, and lifestyle correction at the same time.

Mr W.R. MARMION: Just on finishing the data —

The CHAIR: Sorry.

Mr W.R. MARMION: No, no, on what you were just saying then. You talked about —

Prof. Hamdorf: Janine is the Chair, though.

Mr W.R. MARMION: Yes; you went to 5, 10. What country in the world has the highest uptake?

Prof. Hamdorf: I feel I cannot answer that.

Mr W.R. MARMION: You said it was 1.8 —

Prof. Hamdorf: It is less than one per cent across the world.

The CHAIR: And it is 1.4 here.

Mr W.R. MARMION: Would there be a country that might have a high —

Prof. Hamdorf: I think we should look to the Brits to look at that. The current chair of the British Obesity and Metabolic Surgery Society, called BOMSS, is a good friend of mine. I could source data from him on what he thinks is the ideal centre, if you would like.

The CHAIR: Yes. We are thinking of going anyway to Britain to do some work over there on it. Can Sarah follow you up and get a contact?

Prof. Hamdorf: Sure. I will hook you up with these people. I do research with them anyway.

The CHAIR: Yes; that would be good. That would be excellent.

The requirement to have a comorbidity for public surgery makes people who are looking to take preventive action ineligible.

Prof. Hamdorf: You should have a reason for operating. Patients come to me and say, “I just want an operation because I want to look better.” I say, “You look beautiful already.” There has to be a metabolic outcome that we can measure—measure input and measure output—to see how well are we doing. There has to be something to fix.

The CHAIR: Does that have to be comorbidity, though? That is pretty —

Prof. Hamdorf: Comorbidity is not a nice word, but complications of obesity works. If you are looking at introducing a public service, the runs on the board are with type 2 diabetes and you would say for the first tranche, we should be looking at patients who have had type 2 diabetes for less than five years or in whom it is so poorly controlled, or controllable, that they will get complications next year if we do not do it now. You have got to look at it for the gains. The thing about health economics is that it represents rationing. With a limited budget, there has to be rationing. The national public task force is looking at sensible triggers for surgery, or sensible indications for surgery, if they can be agreed upon. That is what we are doing at the moment.

The CHAIR: When do you —

Prof. Hamdorf: The paper is imminent!

The CHAIR: The paper is imminent. Can you ask them to hurry up? There is a parliamentary committee that would like to see it.

Prof. Hamdorf: This came up at our board meeting in August. I said, “Guys, this is on its way.” They said, “Jeff, can you handle it?” I said, “Yeah, I’ll do my best.” In August I was told it was four weeks before the paper would come out. I have a preliminary paper I can share with you that was based on a meeting in March of last year.

The CHAIR: Yes, that would be great.

Prof. Hamdorf: But the official task force met on 2 August for the first time.

Mr W.R. MARMION: We can keep it confidential.

The CHAIR: Yes, we can keep it confidential, but that would be worthwhile for us to have.

Prof. Hamdorf: I will give you whatever I can.

The CHAIR: Yes. That would be excellent.

Prof. Hamdorf: But the official paper has not come out yet.

The CHAIR: Yes. That would be fantastic, too—if it is imminent. We do not anticipate bringing down our report until April, but it is better to have information early than later.

Prof. Hamdorf: Sure. Sarah, you have been searching for this stuff. Shall I leave some papers with you?

The CHAIR: Yes, please.

Mr W.R. MARMION: I have a follow-up question because of that question. Say someone does not have a physical health problem, they have a very strong diagnosed mental health problem that the psychologists all agree tick, tick, tick, tick—would you operate then?

Prof. Hamdorf: So, they do not have metabolic disease?

Mr W.R. MARMION: Correct.

Prof. Hamdorf: They meet our criteria, which is a BMI of 40 —

Mr W.R. MARMION: Let us say they are 37.

Prof. Hamdorf: Then it gets a bit more interesting. They have a mental health problem, which might be construed to be a complication.

Mr W.R. MARMION: Let us assume the mental health is to do with the shape of their body.

Prof. Hamdorf: Self-esteem; okay.

Mr W.R. MARMION: Yes.

Prof. Hamdorf: Then we look at their past history; prediction of complications based on family history. They may have been heavier in the past and had a metabolic problem and then it has got better with the weight. Our patients are not on a straight line; they go like this. It is multi-factorial. I am not going to send a patient like that away to gain weight to qualify for an operation—fair call?

Mr W.R. MARMION: Yes, because that is what they do.

Prof. Hamdorf: I know. I think that is a tragedy as well, quite frankly.

The CHAIR: Thank you very much. That was really informative. Given what you outlined when you came in, we are very appreciative of your time.

Prof. Hamdorf: Oh no, no; I am on holidays!

The CHAIR: Is there anything that you have not said that you would like to tell us?

Prof. Hamdorf: No. I am keen to be involved. I do not have time to go back into the public sector but I can help design it and help work with it.

The CHAIR: That is great. Excellent. Thank you very much.

Prof. Hamdorf: Sure. That is fine. It is a pleasure; thank you.

Hearing concluded at 11.06 am
