Coroners Act 1996
[Section 26(1)]

Coroner's Court of Western Australia

RECORD OF INVESTIGATION INTO DEATH

Ref: 42/18

I, Sarah Helen Linton, Coroner, having investigated the death of ***Gerda Theresia DUNKEL*** *with an inquest held at the* ***Perth Coroner's Court, Court 85, CLC Building, 501 Hay Street, Perth*** *on* ***27 November 2018*** *find that the identity of the deceased person was* ***Gerda Theresia DUNKEL*** *and that death occurred on* ***6 November 2015*** *at* ***St John of God Hospital, Murdoch****, as a result of* ***pulmonary thromboembolism in a woman with likely myeloproliferative neoplasm*** *in the following circumstances:*

Counsel Appearing:

Ms F Allen assisting the Coroner.
Mr D Brand (on instructions from MDA National Insurance Pty Ltd) appearing on behalf of Dr Stephen Watson, Dr Andrew McQuillan and Dr Max Bowater.

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INTRODUCTION

1. Gerda Dunkel was born and raised in Germany before moving to Perth with her family in 2011. Mrs Dunkel was generally fit and well, and for most of her life she was a normal weight.

2. In the last three years of her life Mrs Dunkel gained weight that she found difficult to lose, which is not unusual in middle age. She had tried Weight Watchers and Lite & Easy but these programs had not resulted in long term successful weight loss for her. Mrs Dunkel decided to explore other weight loss options and it appears she did some research on available weight loss surgeries. On 31 August 2015 Mrs Dunkel saw a general practitioner for the first time. She asked for a referral for bariatric surgery, in particular for sleeve gastrectomy. At that time Mrs Dunkel's body mass index (BMI) was recorded as 30.0 kg/m2. A BMI is said to be in the healthy weight range between 18.5 and 24.9 and in the overweight range between 25 and 29.9. At a BMI of 30, Mrs Dunkel just fell into the obese range (category I).

3. At her request, Mrs Dunkel was given a referral to two surgeons. Mrs Dunkel contacted the rooms of one of the surgeons and on 9 September 2015, only nine days later, Mrs Dunkel was reviewed by a general practitioner working in the role of a bariatric practitioner,[1] as a preliminary step for surgery. She was given information about the sleeve gastrectomy procedure she had requested and a pre-operative checklist. Her BMI recorded that day was 30.5, so still only marginally in the obese category. Mrs Dunkel was not diabetic, but had a family history of diabetes. Her only other reported health issues at that time were snoring, painful knees and lumbar back pain. At that BMI Mrs Dunkel was not a typical candidate for bariatric surgery, but she potentially fell within the generally accepted criteria depending upon her other health conditions. She was referred through to see the surgeon.

4. Prior to seeing the surgeon Mrs Dunkel saw a dietitian for some dietary post-operative advice. Mrs Dunkel then saw the surgeon, Dr Watson. During their consultation they discussed her blood test results, which had since become available. The blood results had some indicators of high cholesterol and fatty liver disease, which can be associated with obesity. Dr Watson and Mrs Dunkel discussed the risks and benefits of undertaking bariatric surgery, in particular the sleeve gastrectomy, and Mrs Dunkel signed a surgical consent form.

5. The sleeve gastrectomy was performed by Dr Watson on 19 October 2015 and was reported to be uncomplicated. Mrs Dunkel was given deep vein thrombosis (DVT) prophylaxis and was discharged home the following day.

6. Just over a week later, on 28 October 2015, Mrs Dunkel was taken to St John of God Hospital Murdoch with severe upper abdominal pain. She was taken into theatre and found to have a splenic infarction and a very large bleed. The reason for the ruptured spleen was not immediately clear. After surgery Mrs Dunkel developed multi-organ failure, but following treatment over several days Mrs Dunkel's health improved.

[1] Exhibit 1, Tab 17.

7. With the involvement of other specialists it was eventually felt that Mrs Dunkel might have a genetic mutation that increased her risk of some types of thrombosis. She was put on full anticoagulant therapy.

8. On 5 November 2015 Mrs Dunkel had a raised temperature and was noted to have a swollen right leg. There was no immediate concern about treatment of a possible thrombosis as she was already on full anticoagulant therapy. An ultrasound and CT scan performed the following day showed clots in the leg veins (DVT) and a pulmonary embolism. Some immediate steps were taken to reduce the risk of further pulmonary embolism. While considering additional treatment options, Mrs Dunkel went into cardiac arrest due to a catastrophic pulmonary embolism. Despite resuscitation efforts she died that evening on 6 November 2015.

9. The fact that a previously fit and healthy 44 year old woman died of a fatal pulmonary embolism following elective obesity surgery raised the question of the appropriateness of the decision for Mrs Dunkel to undergo surgery in the circumstances. Her decision appeared to possibly be based upon cosmetic reasons rather than serious health issues. Mrs Dunkel's husband, Oliver Dunkel, acknowledged it was his wife's wish to have the surgery but queried why nobody counselled her against it, given there did not appear to him to be any obvious medical need for it.

10. I approved an inquest hearing be held, to explore these issues further, under s 25(2) of the *Coroners Act1996* (WA). I held the inquest at the Perth Coroner's Court on 27 November 2018.

11. There was no evidence to suggest that there was any issue with the performance of the surgery itself, nor the post-surgical care. The inquest focussed instead on the bariatric surgery guidelines and whether Mrs Dunkel met the threshold, and was an appropriate candidate, for the surgery. Evidence was given by the general practitioner/bariatric practitioner, Dr Bowater, and surgeon, Dr Watson. In addition, a consultant haematologist, Dr McQuillan, gave evidence in relation to Mrs Dunkel's likely genetic condition, myeloproliferative neoplasm. The dietitian who Mrs Dunkel saw prior to the surgery gave evidence about her role. Further, evidence was heard from an upper GI and bariatric surgeon, Associate Professor Michael Talbot, who reviewed the case and provided an expert opinion to the court. Some written opinions from other experts were also tendered.

12. Submissions were filed with the Court on 15 February 2019, after the inquest concluded, on behalf of Dr Bowater, Dr Watson and Dr McQuillan. I have taken those submissions into account in making my findings.[2]

BACKGROUND TO THE SURGERY

[2] Submissions to the Coroner prepared on behalf of Dr Stephen Watson, Dr Andrew McQuillan and Dr Max Bowater, filed 15 February 2019.

13. By all accounts Mrs Dunkel had a happy life in Perth with her husband and children. They ran a Harley Davidson business together and enjoyed boating and travelling in their spare time. Prior to her death Mr and Mrs Dunkel were anticipating celebrating their 25th wedding anniversary at the end of 2015.

14. Mrs Dunkel's health was said to have been generally good throughout her life and she had no pre-existing chronic medical conditions and took no regular medications other than the contraceptive pill.

15. Mrs Dunkel saw a general practitioner, Dr Hui Tan, on 31 August 2015. This was the first time she had seen Dr Tan, although she had attended the medical practice previously. Mrs Dunkel requested a referral for bariatric surgery. Dr Tan noted that although Mrs Dunkel was only just in the obese category by her 30.0 BMI result (based on her height of 164cm and weight of 80.6kg) she had done research and had identified that she specifically wished to undergo surgical sleeve gastrectomy, rather than have a gastric band inserted.

16. In brief, gastric sleeve surgery (or sleeve gastrectomy) is an operation which disrupts the usual function of the stomach, specifically related to appetite and eating capacity. It involves the permanent removal of about 85% of the stomach, leaving a stomach with much smaller capacity.[3] It has become increasingly popular in recent years, overtaking the popularity of gastric banding.

17. Mrs Dunkel had health insurance and was referred as a private patient. The majority of bariatric surgeries are performed privately in Australia either partially funded by private health insurance or fully funded by the patient. Dr Tan gave Mrs Dunkel referrals to two surgeons, one being Dr Stephen Watson.[4]

18. During the consultation with Dr Tan, Mrs Dunkel mentioned an acute onset of lower back pain, for which she was prescribed some pain medication. Mrs Dunkel was also prescribed the oral contraceptive pill. Dr Tai was unaware of any other pre-existing medical conditions and thought Mrs Dunkel appeared to be in good health.[5]

19. Mrs Dunkel contacted Dr Watson's rooms shortly afterwards. Dr Watson is a General and Laparoscopic Surgeon, who was based at the Murdoch Medical Centre, attached to St John of God Hospital Murdoch at the time. Dr Watson started performing gastric banding surgery in 1999. His evidence was that he was initially reluctant to perform sleeve gastrectomy surgery because it involved an operation and, unlike the band, carries an increased risk and was not reversible. However, Dr Watson began performing sleeve gastrectomy in 2011 and it now comprises the bulk of the procedures he performs, as is the case with most of his colleagues across the country. Dr Watson estimated he had done about 6500 gastric band procedures and 2100 sleeve gastrectomies at the time of the inquest, and has also more

[3] T 6 – 7.
[4] Exhibit 1, Tab 12.
[5] Exhibit 1, Tab 12.

recently begun performing gastric bypasses. He is, therefore, an experienced bariatric surgeon, having performed more than 8600 weight loss procedures.[6]

20. On 9 September 2015, Mrs Dunkel attended her first appointment at Dr Watson's rooms. She saw a general practitioner, Dr Max Bowater, who was performing the role of a bariatric practitioner at Dr Watson's surgical practice.[7] Her appointment was only nine days after Dr Tan provided Mrs Dunkel with the referral, which indicates Mrs Dunkel acted quickly and was not hesitant about moving forward with her plan.

21. As a bariatric practitioner Dr Bowater had a lot of past experience with gastric banding. However, he explained that as that procedure diminished in popularity and the volume of work reduced, Dr Bowater began to perform a role with Dr Watson of streamlining the flow of patients seeking bariatric surgery by assessing them against the set criteria to determine whether there should be further consultation with Dr Watson.[8]

22. Dr Bowater set out the criteria he recalls being given by Dr Watson as follows:

- Age 18 – 70 years;
- BMI > 35; or
- BMI > 30 with comorbidities;
- No previous hiatus hernia surgery;
- Patients with a BMI> 50 required referral to a physician for surveillance of anaesthetic risk; and
- Patients requesting bariatric bypass surgery were referred to a bariatric surgeon offering this service as Dr Watson performed only laporoscopic gastric band surgery or sleeve gastrectomy at that time.[9]

23. Dr Bowater explained that it was not his role to discuss surgical risks with the patient, nor to make the final decision as to whether the patient was suitable for the surgery. These matters were dealt with by Dr Watson.[10] However, Dr Bowater would exclude patients who did not meet the criteria or were conflicted and needed more time to consider their options.[11]

24. On 9 September 2015, Dr Bowater performed a medical assessment of Mrs Dunkel. Dr Bowater concluded Mrs Dunkel's BMI was marginally higher than Dr Tan's assessment, rating her BMI as 30.5, based on a height of 163cm and 81kg weight (the height measurement being the primary differential that changed the result). Based on that result, Dr Bowater described Mrs Dunkel as a "43 year old woman with obesity."[12]

[6] T 69.
[7] T 36.
[8] T 36 – 37; Exhibit 1, Tab 17.
[9] Exhibit 1, Tab 17.
[10] T 38; Exhibit 1, Tab 17.
[11] T 37.
[12] Exhibit 1, Tab 10B.

25. Mrs Dunkel told Dr Bowater she had been a normal weight all her life but had gained significant weight in the past three years. She had been unable to shed the weight despite trying weight loss programs like Weight Watchers and Lite & Easy. An exercise program does not seem to have been mentioned. Mrs Dunkel told Dr Bowater she had been considering bariatric surgery for the past year and was keen to proceed with a sleeve gastrectomy based on her understanding it had better weight loss outcomes.

26. Mrs Dunkel's only health issues noted were snoring, painful knees and lumbar back pain. She did not have diabetes and had not developed gestational diabetes during her two pregnancies but she had a family history of diabetes through her father. Mrs Dunkel described herself as a non-smoker who enjoyed a small amount of alcohol on the weekend.

27. Dr Bowater gave evidence that he felt Mrs Dunkel was at the lower end of the spectrum of BMI but she "clearly met the criteria"[13] given to him by Dr Watson, in the sense she had a BMI greater than 30 and she had what he felt were 'comorbidities'. Dr Bowater was asked about the comorbidities, and he described them as her report of snoring, painful knees and lumbar back pain, which he noted were "common presentations for people who are overweight."[14] Dr Bowater did not have any pathology results at this stage, so the comorbidities he was referring to were only from her account of these complaints.[15]

28. In a letter to the court Dr Bowater had elaborated on Mrs Dunkel's co-morbidities as:[16]

    1. *Snoring which usually progresses to sleep apnoea as a patient gains more weight;*
    2. *Painful knees which usually progresses to osteoarthritis requiring joint replacement if a patient continues to gain weight; and*
    3. *Lumbar back pain which becomes more debilitating if a patient gains further weight.*

29. I will come back to this later in my finding, but at this stage it is sufficient to note that Dr Watson accepted in his evidence that these sorts of issues identified by Dr Bowater wouldn't generally count as co-morbidities for the purposes of the ordinary bariatric surgery criteria, without further investigation.[17]

30. As to considering whether Mrs Dunkel was an appropriate candidate for surgery beyond the set criteria, Dr Bowater said he did not probe with Mrs Dunkel why she wanted surgery as he had experience with obesity himself and felt that it was inappropriate to question her in such a way. Dr Bowater said he knew Mrs Dunkel had made the effort to go to the GP to seek a referral and had then made the appointment to come and see him, which showed her motivation to go ahead. Dr Bowater said he has spent a

[13] T 37.
[14] T 38.
[15] T 39.
[16] Exhibit 1, Tab 17.
[17] T 75.

lot of time trying to work out why so many people struggle with their weight and has witnessed many patients in his office in floods of tears over their weight, so he did not consider it appropriate to pursue it.[18]

31. Dr Bowater's evidence was that he was satisfied that Mrs Dunkel had not thought about having surgery three weeks before and quickly gone out and organised a few appointments. In his notes he recorded that she had done well with her weight until the age of 40 years, even after three pregnancies, and then she had gained weight and despite making an effort to lose it, it hadn't worked. Dr Bowater's evidence was that he listened to that and accepted it.[19] In terms of his own experience, Dr Bowater had seen the successes and failures of different procedures, and in his experience a sleeve gastrectomy was a better option than previous procedures and this was backed up by research, noting the "outcomes after seven years are phenomenal."[20] Dr Bowater indicated that he sees sleeve gastrectomy as a very positive advancement in weight loss surgery options, describing it as the "least damaging."[21]

32. Interestingly, when Dr Bowater was asked what he understood to be Mrs Dunkel's goal to achieve from surgery, he responded, "Maybe I just had an … expectation that she wanted to be in the normal range and wear the same size clothes that she did up until the age of 40." Dr Bowater was asked whether he considered that to be an acceptable aim for undergoing this type of surgery, to which he responded, "Absolutely."[22] I note that this was not the position taken by the surgeon, Dr Watson.

33. Dr Bowater gave evidence that, by his calculations, Mrs Dunkel would have needed to lose 14 kg to reach a weight of 67 kg, which would place her into the healthy BMI range for her height. Dr Bowater was asked in his experience how easy it is for somebody like Mrs Dunkel to lose that level of weight through non-surgical means. Dr Bowater indicated that in his experienced 10kg is a reasonable weight loss amount for a person to achieve, if they put in the amount of effort that people are prepared to put into a special weight loss project. Different methods can achieve that goal. However, in Dr Bowater's experience they will invariably put it back on, and may indeed put back on more weight than they lost.[23]

34. Dr Bowater was asked whether he ever considered referring patients at the lower end of the range, like Mrs Dunkel, to a weight loss program first. Dr Bowater was adamant that GP programs and dietitian programs for weight loss don't work, claiming they have a less than 5% success rate in - achieving long-term sustainable weight loss. He maintained that many people can put in a good 12 week effort but in his experience within 2 years' time they are at the same weight or higher than when they started.[24] He also expressed the view that, from his past experience, referring someone to a

[18] T 39.
[19] T 43 – 44.
[20] T 44 – 45.
[21] T 46.
[22] T 46.
[23] T 47.
[24] T 42.

psychologist to address any psychological reasons for overeating is also "as useless as sending them to a dietitian."[25]

35. Dr Bowater acknowledged that when he first started working as a bariatric practitioner he would see patients on the lower BMI spectrum and question whether it is the norm and whether surgery was an appropriate path. However, from his experience in the bariatric surgery field, he is aware that people in this range have been undergoing lap banding, and sleeve gastrectomy as it has become more popular, across the country and internationally for many years. Therefore, Mrs Dunkel's presentation did not concern him.[26]

36. In this case, after establishing in his mind that Mrs Dunkel met the criteria, Dr Bowater arranged for Mrs Dunkel to view a video of the sleeve gastrectomy procedure and gave her a pre-operative checklist.[27] Pathology request forms were also given to Mrs Dunkel and it was expected that she would have the blood tests performed prior to her consultation with Dr Watson. The results were not, therefore, available to Dr Bowater.[28]

37. As part of the pre-operative process, Mrs Dunkel was also referred to a dietitian, Ms Jo Anne Dembo. Ms Dembo has a special professional interest in bariatric surgeries and she often saw Dr Watson's patients for dietary assessment prior to their surgery. Ms Dembo explained that the purpose of the assessment is to gain an understanding of the patient's medical background and their nutrition in terms of food choices and food preferences in order to then be able to provide dietary education appropriate to them. A typical dietary assessment would involve gathering information about any known medical conditions that would have a direct connection to nutrition, such as diabetes, and any medications/supplements the patient is taking. What they eat, in terms of meal timing, portion sizes and food preferences, is also discussed. Based on that information, pre-surgery weight dietary guidelines might be suggested if pre-surgery weight loss is required, or else post-surgery dietary guidelines would be covered.

38. Ms Dembo indicated that one of the first questions she asks new patients is, "Do you know anyone else who has had weight loss surgery?" In her experience more than 90% know at least one such person. Ms Dembo accepted that there is an increasing trend towards people seeking this type of surgery but in her experience the patients are generally seeking it out in order to be comfortable and healthy, improve their quality of life and reduce their potential risks of obesity-related disease. Whilst there will be some patients who have a greater focus on the cosmetic improvements that weight loss can bring, Ms Dembo felt that most will talk about improving their health in general.[29]

39. Mrs Dunkel saw Ms Dembo on 19 September 2015. Ms Dembo conducted a dietary assessment to assist with Mrs Dunkel's weight reduction post-

[25] T 45.
[26] T 41.
[27] Exhibit 1, Tab 10B, Letter of Dr Bowater to Dr Watson, 9.9.15.
[28] T 39; Exhibit 1, Tab 17.
[29] T 54.

surgery as it was not felt she required pre-surgery weight loss. At that time Mrs Dunkel's weight was recorded as 82.3kg (again a slight increase from when she saw Dr Bowater and Dr Tan) and her short term weight loss goal was set at 75kg. Ms Dembo explained that this was the initial short-term goal that would be expected to be achieved by the time Ms Dembo saw Mrs Dunkel again, three weeks after surgery.[30] Ms Dembo explained that, depending on their starting weight, some patients can hope to achieve as much as 20 kg in that time period, but the majority of patients can expect to lose between 7 kg and 10 kg in the first three weeks.[31]

40. Ms Dembo said she usually does a BMI calculation to determine whether a patient needs pre-surgery dietary intervention, and accepted that Mrs Dunkel was at the lower end of the range of BMI for patients that she sees, but not so low as to discount her from the surgery taking into account co-morbidities. Ms Dembo said she was not aware of Mrs Dunkel having any health issues, or at least none were specifically presented to her, but was aware she was booked in for surgery so assumed she had met the criteria.[32]

41. Ms Dembo was asked if, in her experience as a dietitian, she was aware of any other methods of weight lose that could have achieved the weight loss Mrs Dunkel was seeking. Ms Dembo responded that it depends on the patient and their motivation to make changes to their diet and lifestyle choices, but generally nonsurgical weight loss could be an option; however, no nonsurgical method would achieve such rapid weight loss, which is often a factor in people's commitment to continue with lifestyle changes.[33] It is the case, as Ms Dembo explained, that even after weight loss surgery, long term weight loss requires lifestyle changes, and the surgery is merely a tool to facilitate that. Significant early weight loss is a good motivator in these cases.[34]

42. Ms Dembo did give evidence that with some patients, who appear to be sitting on the fence as to whether to undergo surgery, she will explain that there are alternatives to surgery and if they feel they haven't exhausted other avenues then it might be an opportunity for her to work with them to exhaust those other avenues. If they don't succeed, then the option of surgery is still there. However, Ms Dembo has found that most of the patients she sees who are referred in this manner are very definite that weight loss surgery is the pathway that they are taking and their surgery date is already confirmed.[35]

43. Ms Dembo said Mrs Dunkel fell into the category of patient who was definite about her decision and had a surgery date. She did not recall Mrs Dunkel giving a specific reason for undergoing the surgery, but in general terms most patients tell her that they have tried everything else.[36]

[30] T 48 – 50.
[31] T 50.
[32] T 52.
[33] T 50 – 51.
[34] T 51.
[35] T 51.
[36] T 52.

44. Mrs Dunkel was given dietary education and a plan was established for her diet post-surgery, to help her make those changes.[37] It was anticipated she would return to see Ms Dembo three weeks after the surgery, and then up to five times after that, in order to monitor her diet and look for any negative side-effects. Ms Dembo said that initially in the recovery stage patients often suffer reflux and some conditions associated with the recovery process. Moving forward, some patients with rapid weight loss have to have their gall bladder removed, so she works closely with them in terms of managing their diet around that. Ms Dembo noted that some people experience emotional issues in terms of managing social eating, due to the new limited portion sizes and texture-modified diet that is required. Ms Dembo provides them with strategies and guidelines to work through those situations. She also reinforces the importance of vitamin and mineral supplementation and encourages them to monitor their blood tests.[38] Needless to say, Mrs Dunkel was never in a position to see Ms Dembo again for the post-surgery follow-up, as she died before the first appointment would have been scheduled.

45. Mrs Dunkel first met Dr Watson on 23 September 2015, following her earlier pre-operative consultation with Dr Bowater and meeting with Ms Dembo.[39] Dr Watson recalled that Mrs Dunkel made it very clear to him that she was seeking weight loss surgery (or as Dr Watson described it, metabolic surgery)[40] for a number of reasons, but primarily for her health. She mentioned she had siblings who were morbidly obese and her father had diabetes. Mrs Dunkel gave the history of having tried to lose weight for a long time and had exhausted other means of weight loss. She said that after a lot of consideration she felt that this operation was necessary to help her to lose weight to maintain her health and to avoid becoming big like her family in the future.[41]

46. Dr Watson gave Mrs Dunkel information about a less invasive procedure, gastric banding, but she indicated to him that she knew other patients who had undergone a sleeve gastrectomy and she had seen how well the operation had gone, so she indicated a sleeve gastrectomy was her preference.[42]

47. Dr Watson's evidence was that Mrs Dunkel did not give as a reason her desire to 'fit into a smaller dress' or 'change her body image', but rather gave reasons that were all about her health.[43] Dr Watson said it was also pointed out to Mrs Dunkel she had a number of health-related risk factors on her blood test, one being raised cholesterol: a lowered good cholesterol and raised bad cholesterol. In particular, Dr Watson indicated Mrs Dunkel had an abnormality to the cholesterol known as dyslipidaemia, exhibiting high triglycerides.[44]

[37] Exhibit 1, Tab 10B, letter of Jo Anne Dembo to Dr Watson 19.9.2015.
[38] T 52 – 53.
[39] T 67.
[40] T 75.
[41] T 67 - 68.
[42] T 67.
[43] T 69.
[44] T 68, 70 - 71.

48. Mrs Dunkel's coronary risk ratio, which is calculated by reference to the cholesterol, was abnormal, so Dr Watson considered she also had an increased risk of heart disease and coronary artery disease (and Dr Watson pointed at the inquest to her coronary artery disease found at post mortem as evidence of this).[45]

49. The other significant factor was her ferritin level, which was grossly elevated at twice the normal range. Dr Watson explained that ferritin levels are an indicator of inflammation, especially in the liver, and it often has a correlation with non-alcohol fatty liver disease. Non-alcohol fatty liver disease is a spectrum of a disease, which can be quite mild or can end up quite severe, with the liver ending up cirrhotic. The worst case scenario of the progression of untreated obesity related fatty liver disease is the need for liver transplantation, although that was certainly not the case for Mrs Dunkel at that early stage.[46]

50. Dr Watson gave evidence there are studies that show that sleeve gastrectomy (or weight loss of any means) has been shown to reverse dyslipidaemia and fatty liver disease, so both those would be potential healthy outcomes from Mrs Dunkel undergoing the surgery. In addition, assisting her weight loss would reduce her chance of developing coronary artery disease.

51. Dr Watson explained his role in discussing with the patient the risks and benefits of surgery is to make sure that the patient understands the risks and potential benefits and what their role is in the operation in terms of their post-operative attendance and maintenance for ongoing dietary and nutritional support. Dr Watson said he paints the worst case scenario to them, but indicated that this would not have included discussion of a splenic rupture with Mrs Dunkel as this was not an anticipated complication. Rather the worst case scenario he would have discussed was a leak from the staple line. Dr Watson described such an outcome, which has about a 1% occurrence rate, as a "disaster"[47] that can mean prolonged and repeated surgery and hospitalisation.[48] He described the risk of a leak as the major risk of this surgery, and indicated that it was his job to ensure the benefits of undergoing surgery outweigh this risk to ensure that the surgery is "worth it."[49]

52. Dr Watson also said he also discussed with Mrs Dunkel after care following surgery, such as the need to avoid dehydration after the operation by drinking fluids afterwards.[50] Mrs Dunkel and Dr Watson signed a consent form on the date of their consultation. The consent form acknowledged that Mrs Dunkel had discussed "the nature of the problem of obesity, the role of the laparascopic sleeve gastrectomy as a solution to this problem, and the use of a laparoscopic sleeve gastrectomy as a method of gastric restriction."[51] The consent form also indicated Mrs Dunkel's acknowledgment that she had been told about the possibility of anaesthetic and surgical complications,

[45] T 68.
[46] T 68.
[47] T 68.
[48]
[49] T 69.
[50] T 69.
[51] Exhibit 1, Tab 10A, Consent Form.

including perforation of the stomach, bleeding, infection, clots in the leg and lung and even death.[52]

53. In a letter to her GP, Dr Watson also noted that Mrs Dunkel had decided to have the sleeve gastrectomy in the full knowledge that the operation was not as safe as gastric banding, was irreversible, not adjustable and had only about seven years of documented follow up at that time.[53]

54. As to her history, Dr Watson recorded in the letter that Mrs Dunkel had tried very hard to keep her weight at its current level and had a strong family history of obesity and her father was a diabetic. He also mentioned that her blood tests showed high cholesterol and triglycerides, raised ferritin and slight liver enzyme changes.[54]

55. There was no evidence anyone attempting to dissuade Mrs Dunkel from her chosen path of weight loss surgery. I explored this further at the inquest hearing and I will address the specific responses later in my finding, but in essence the evidence before me was that the doctors and dietitian understood it was Mrs Dunkel's preference and they felt it was an appropriate choice in the circumstances.

COMPLICATIONS OF THE SURGERY

56. The surgery proceeded on 19 October 2015 at St John of God Hospital Murdoch. Dr Watson had discussed with Mrs Dunkel the possibility of placing in a minimiser ring at the time of the sleeve gastrectomy and, just before her surgery, she indicated she would like it placed. Mrs Dunkel had a sleeve gastrectomy, a minimiser ring was placed and an incisional hernia was also closed at the same time.[55]

57. Post-surgery Mrs Dunkel was given DVT prophylaxis in the form of heparin twice, once on the evening of surgery and once the following morning, plus TEDS compression stockings and leg pumps. Mrs Dunkel initially recovered well and was discharged home on 20 October 2015.[56]

58. Mrs Dunkel was taken by her husband to the Emergency Department of St John of God Hospital Murdoch early in the morning on Wednesday, 28 October 2015. She complained of severe, constant upper abdominal pain and was eventually diagnosed with a ruptured spleen. She underwent emergency laparotomy and splenectomy as her spleen had an infarction and required removal. Mrs Dunkel also had a large bleed into her abdomen that required a significant transfusion of blood products. Dr Watson performed the surgery with the assistance of another surgeon. Mrs Dunkel was then admitted to the Intensive Care Unit, where she started making a good recovery.[57]

[52] Exhibit 1, Tab 10A, Consent Form.
[53] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Tan, 19.10.2015.
[54] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Tan, 19.10.2015.
[55] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Tan, 19.10.2015.
[56] Exhibit 1, Tab 10B,
[57] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Coid, 8.11.2015.

59. The cause of the splenic infarction was not immediately clear. Dr Watson's feeling was that Mrs Dunkel had a portal vein thrombosis (blood clot in the vein delivering venous blood to the liver), then splenic vein infarction and rupture. Immediately after theatre Dr Watson spoke to colleagues regarding management of presumed portal vein thrombosis.[58]

60. Mrs Dunkel was taken back to theatre on Friday, 30 October 2015 for review and closure of her abdomen, again undertaken by Dr Watson. She was extubated on 1 November 2015 and returned to the ward on Monday, 2 November 2015. An abdominal ultrasound was performed on Tuesday, 3 November 2015 and a formal diagnosis of portal vein thrombosis was then made. Dr Watson consulted Respiratory Consultant Dr Peter Bremmer, who recommended full anticoagulation with Rivoxabarin 15mg twice daily, with her first dose started at 3.30 pm on Wednesday, 4 November 2015.[59]

61. Blood tests were ordered that subsequently did not show a prothrombotic disorder/thrombophilia (blood clotting disorder which predisposes to forming blood clots).[60] At this stage Mrs Dunkel was eating, and it was felt she might be able to go home in a few days.[61]

62. During the afternoon of Thursday, 5 November 2015, Dr Watson was contacted by Dr Bridget Cook, a pathologist, who had reviewed Mrs Dunkel's spleen. The histology was abnormal and displayed extramedullary haematopoiesis (essentially bone marrow cells at sites other than bone marrow). In this case, there was bone marrow growth occurring within Mrs Dunkel's spleen.[62] This can be associated with underlying problems of the bone marrow such as myelofibrosis, a serious bone marrow disorder. It was explained in a case such as Mrs Dunkel's, the spleen becomes very enlarged over time, which creates a higher chance of spontaneous splenic rupture.[63]

63. Dr Watson contacted Dr Andrew McQuillan, a Specialist Haematologist. Dr McQuillan suggested Mrs Dunkel may have a JAK2 mutation, which places patients at increased risk of mesenteric, portal and splenic vein thrombosis (blood clot formation in the vessels).[64] Dr McQuillan indicated that 50 to 60% of cases of myelofibrosis are associated with a gene abnormality, most often JAK2, with the majority of other cases being associated with Calreticulin exon 9 mutation (which was later discovered to be the cause of Mrs Dunkel's condition).[65]

64. That evening Mrs Dunkel's temperature spiked and after discussion with an Infectious Disease Physician, Dr Duncan McLellan, Mrs Dunkel was started on intravenous antibiotics and arrangements were made for a CT scan of Mrs Dunkel's chest and abdomen the next day.[66]

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[58] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Coid, 8.11.2015.
[59] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Coid, 8.11.2015.
[60] Exhibit 1, Tab 6A.
[61] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Coid, 8.11.2015.
[62] T 57.
[63] T 57.
[64] Exhibit 1, Tab 6A and Tab 10B, Letter of Dr Watson to Dr Coid, 8.11.2015 and Tab 10E.
[65] T 57.
[66] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Coid, 8.11.2015 and Tab 10E.

65. A resident medical officer (RMO) re-siting an intravenous cannula that evening noticed that Mrs Dunkel had a swollen right leg but noted that she was already on anticoagulation and the team could consider an ultrasound of her leg the following morning.[67] Mr Dunkel advised the investigating police that his daughter was with Mrs Dunkel and had noticed her symptoms of fever and sore and swollen legs a few days before her death. Mrs Dunkel's daughter recalled in particular a night or two before Mrs Dunkel's death a doctor mentioned that if there was another clot it wasn't an issue as she was already on aspirin to treat blood clots. It seems likely this was the RMO that spoke to Mrs Dunkel's daughter.

66. On the Friday morning, being 6 November 2015, Mrs Dunkel's right leg swelling was readily apparent and an additional imaging request was made for an ultrasound of both legs. Mrs Dunkel remained on full anticoagulation. At this time Mrs Dunkel was feeling well and indicating her desire to go home. That afternoon the ultrasound showed bilateral proximal deep vein thromboses of her legs and the CT scan revealed the inferior vena cava (large vein carrying all the blood from the lower part of the body back to the heart) had a clot extending just below the renal (kidney) veins and she had a right-sided pulmonary embolism (a blood clot in the lungs).[68]

67. An inferior vena cava filter was placed by radiologist Dr Misur later in the afternoon to prevent the dislodged clot from travelling up to central veins. At Dr Watson's request, Mrs Dunkel returned to ICU after the filter insertion for monitoring. Dr Watson also spoke with the haematologist Dr McQuillan to discuss the option of changing Mrs Dunkel's anticoagulation to heparin or clexane as she had developed a DVT and pulmonary embolism while being treated with the oral anticoagulant rivoxibarin.[69] A heparin bolus and infusion was apparently then commenced.[70]

68. Dr McQuillan came in to speak to Mrs Dunkel in the Intensive Care Unit just after 8.00 pm on the Friday night. He intended to discuss with her the implications and further investigation of the myeloproliferative neoplasm. Mrs Dunkel was breathless but able to speak in short sentences when he arrived. While Dr McQuillan was reading Mrs Dunkel's notes, Mrs Dunkel suddenly deteriorated and went into cardiopulmonary arrest. An ICU specialist, Dr Breheny, attended immediately and CPR was commenced. The Medical Emergency Team arrived shortly afterwards to assist. It was presumed that Mrs Dunkel had a large saddle embolus (a catastrophic pulmonary embolism that straddles the pulmonary artery trunk). A thrombolysis (Alteplase) was added to her infusion to try and dissolve the clot.[71]

69. Dr Watson was informed of these events at 8.15 pm. He headed to the hospital and on the way he spoke to a cardiothoracic surgeon to explore the surgical option of an embolectomy and placing Mrs Dunkel on a bypass.

[67] Exhibit 2, Progress Notes, 5.11.2015, 21:40.
[68] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Coid, 8.11.2015 and Tab 10E.
[69] Exhibit 1, Tab 6A and Tab 10B, Letter of Dr Watson to Dr Coid, 8.11.2015 and Tab 10E.
[70] Exhibit 1, Tab 15.
[71] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Coid, 8.11.2015 and Tab 10E.

He was told this could not happen as long as Mrs Dunkel was requiring active CPR. Instead, her best chance was to continue CPR to see if some of the pulmonary artery clot could be dislodged to get a return of cardiac output. If that occurred, then the bypass option could be explored. Despite continued CPR Mrs Dunkel had no return of circulation. Her death was declared that evening.[72]

CAUSE AND MANNER OF DEATH

70. On 12 November 2015 two forensic pathologists, Dr White and Dr Kueppers, made a post mortem examination of Mrs Dunkel. They also reviewed the available medical records and information provided by Dr Watson.

71. Post mortem examination showed evidence of medical treatment, including multiple abdominal surgical scars and recent sleeve gastrectomy and splenectomy. The scars and surgical sites were intact and showed no evidence of infection. Extensive blood clots (thrombi) were noted in the venous vessels, within and around the liver, in the common iliac veins (large veins in the groin region), the mesenteric veins (veins draining blood from the small bowel), the splenic vein, and the right leg deep calf veins. An IVC filter was present in the inferior vena cava. The lungs were congested and fluid laden but showed no blood clots; the history of thrombolysis as part of advanced CPR was noted and this explained the absence of blood clots within the lungs at post mortem examination. A small blood collection (haematoma) was noted under the capsule of the liver, most likely the result of cardiopulmonary resuscitation attempts.[73]

72. Microscopic examination of the tissues confirmed "recent-appearing blood clots in the portal vein, femoral vein and right leg deep veins."[74] A foreign body-type inflammatory reaction was seen in soft tissues around the stomach and in the omentum (protective fatty apron covering the bowel), in keeping with recent abdominal surgery. Sections from the bone marrow showed reactive changes only. Evidence of myelofibrosis or myeloproliferative neoplasm was not seen. Microbiology testing did not find any results of obvious significance.[75]

73. Molecular haematology mutation studies were performed on Mrs Dunkel's blood, including testing for JAK2 mutation and Calreticulin exon 9 mutation. JAK2 mutation was negative but Calreticulin exon 9 mutation was detected. The forensic pathologists advised this is considered a pathogenic mutation found in the majority of patients with myeloproliferative neoplasms with non-mutated JAK2. Myeloproliferative neoplasms are a group of diseases of the bone marrow, usually in which excess cells are produced. They are related to, and may evolve into, acute leukaemia or myelodysplasia. They can also be associated with abnormal blood clotting, as well as extramedullary haematopoiesis, which was seen in Mrs Dunkel's spleen.

[72] Exhibit 1, Tab 10B, Letter of Dr Watson to Dr Coid, 8.11.2015 and Tab 10E and Tab 15.
[73] Exhibit 1, Tab 6A.
[74] Exhibit 1, Tab 6A, p. 2.
[75] Exhibit 1, Tab 6A.

74. Dr White and Dr Kueppers advised that while the sections of bone marrow did not histologically show features of myeloproliferative neoplasm, it is possible for such changes not to be readily apparent at the time of initial clinical presentation.[76]

75. Toxicology analysis detected the presence of medications in keeping with recent hospital treatment, including resuscitation.[77]

76. At the conclusion of all investigations the forensic pathologists concluded it appeared that Mrs Dunkel died from pulmonary thromboembolism on a background of likely underlying myeloproliferative neoplasm, which was undiagnosed and asymptomatic until the recent illness leading to her death. The myeloproliferative neoplasm likely precipitated the clotting abnormality with extensive blood clot formation resulting in splenic rupture, which followed recent uneventful bariatric surgery.

77. Based on their findings, Dr White and Dr Kueppers formed the opinion the cause of death was pulmonary thromboembolism in a woman with likely myeloproliferative neoplasm.[78] I accept and adopt their conclusion as to the cause of death.

78. During the inquest, Dr Watson raised the post mortem findings of atherosclerosis, in the mid-portion of the anterior descending branch of the left coronary artery causing approximately 50% luminol stenosis.[79] Dr White was asked if she could comment on the extent of Mrs Dunkel's cardiac disease. Dr White's opinion was Mrs Dunkel only had focal mild coronary artery atherosclerosis, and Dr White did not consider it significant in the cause of death.[80]

79. The cause of death raises the question whether the surgery precipitated the events that led to Mrs Dunkel's death, in the sense of leading to the formation of the pulmonary thromboembolism.

80. One of the forensic pathologists, Dr White, was asked her opinion as to whether the gastric sleeve surgery precipitated the portal vein thrombosis. Dr White suggested it was more properly a question for the surgeon involved in this case, but commented that patients with these types of disorders have a general increased risk of clotting abnormalities, which predisposes them to significant complications. These complications can be precipitated by a number of things, including, but not limited to, infections, surgery, trauma and medications.[81]

81. This question was further explored with the haematologist, Dr McQuillan, who gave evidence at the inquest. Dr McQuillan had discussed this case with

[76] Exhibit 1, Tab 6A.
[77] Exhibit 1, Tab 6A.
[78] Exhibit 1, Tab 6A.
[79] T 75; Exhibit 1, Tab 6B, p. 5.
[80] Email to Counsel Assisting from Dr White, 29 November 2018.
[81] Email to Counsel Assisting from Dr White, 24 November 2018.

Dr White when she was completing the post mortem, so he had a good understanding of Dr White's position from the forensic pathology aspect.[82]

82. Dr McQuillan explained that a splenic rupture is uncommon, and probably about 30% of cases of a traumatic splenic rupture will occur in a diseased spleen due to some form of malignancy. In this case, the malignancy was the underlying myeloproliferative neoplasm (which was probably very early myelofibrosis). Unusually in Mrs Dunkel's case, the spleen was not enlarged, although she did have a diseased spleen. Dr McQuillan explained that patients such as Mrs Dunkel, who have a myeloproliferative neoplasm, have a higher risk of developing porto-mesenteric thrombosis, which involves clots forming within the splenic bed. If a small clot gets into a splenic vein, it can create a significant back pressure on the diseased spleen, and the spleen can spontaneously rupture. In addition, Dr McQuillan explained these patients also have abnormal platelet function, so the platelets which help the blood clot don't work as well as they would in a normal person, which means the person bleeds more.[83] Therefore, the person has a higher risk of haemorrhage and a higher risk of thrombosis at the same time.[84]

83. Apart from these issues, Dr McQuillan confirmed that the testing on Mrs Dunkel found no other underlying thrombophilia or increased risk of thrombosis.[85]

84. As noted above, Mrs Dunkel had the less well known mutation that causes myeloproliferative neoplasm. Dr McQuillan noted that the Calreticulin exon 9 mutation was only described and published in the Journal of Medicine in 2013, so it has not been a known condition for long, and is not something that would be routinely tested for on any person.[86] Dr McQuillan explained this mutation is acquired and not inherited.[87] Dr McQuillan reviewed Mrs Dunkel's pre-operative blood films and noted there were none of the characteristic changes on the blood film, such as a raised platelet count or myelocytes (immature white cells in the peripheral blood). As already noted, unusually, the spleen was not enlarged. Accordingly, there were no obvious clues to Mrs Dunkel having this condition, even if it had been considered prior to her surgery,[88] and in Dr McQuillan's opinion there was "really no way of knowing beforehand."[89]

85. Dr McQuillan described Mrs Dunkel's condition as "more or less a little bit of a ticking time bomb"[90] although there were no obvious indicators.

86. Dr McQuillan also indicated that in his experience splenic vein thromboses are very rare. As a Consultant Haematologist of many years standing, Dr McQuillan gave evidence he had not actually seen a case like this ever before, and was aware of such cases only in the literature, and even there,

[82] T 57; Exhibit 1, Tab 15.
[83] T 57 – 58.
[84] T 63.
[85] T 58.
[86] T 57.
[87] T 59.
[88] T 59.
[89] T 59.
[90] T 59.

they are few and far between. Accordingly, Dr McQuillan described Mrs Dunkel's splenic rupture as "a rare event."[91] Dr McQuillan explained that in most cases where a patient suffers a portal vein thrombosis, they will end up with liver dysfunction but they will not rupture their liver. Alternatively, they may have venous infarction of their gut, which will present as acute abdominal symptoms. However, neither of these are necessarily sudden onset, nor catastrophic, unlike the splenic rupture, which is immediate and catastrophic.[92]

87. Dr McQuillan confirmed that such a rupture can occur spontaneously and could have occurred at any time. When asked whether having bariatric surgery would have increased Mrs Dunkel's risk of such an event, Dr McQuillan considered it was "a tough question."[93] Dr McQuillan noted that the overall risk of getting a clot in bariatric surgery is relatively low, at about 0.4%. The risk for clotting goes up if the patient has had a previous thrombosis or a BMI greater than 50, or due to a number of other risk factors such as dehydration or a gastrointestinal illness.[94] Abdominal surgery is also noted to be a risk factor. However, Dr McQuillan had read the literature and case reports on bariatric surgery and had not found anything similar to this case.[95]

88. The ultimate event that caused Mrs Dunkel's death was outside the porto-mesenteric area, as Mrs Dunkel had clots in her legs, which led to an IVC filter being inserted to try to stop the clot from going up to the lungs. It does not, however, prevent a propagation of a clot back towards the main pulmonary trunk, which is what Dr McQuillan thought was reasonably likely to have occurred here. Dr McQuillan and Dr Breheny had immediately acted to begin resuscitation and initiate thrombolysis, which the evidence suggested had worked to rid the lungs of the clot, giving Mrs Dunkel her best chance of survival. However, despite their immediate and best efforts, Mrs Dunkel could not be revived.

89. Moving backwards, Dr McQuillan pointed to the splenic rupture as the absolute precipitant to the rest of the events, including the final clot that lodged in the lungs. He described the spleen rupture as the "major event" and the other events cascaded from there. However, Dr McQuillan noted that Mrs Dunkel had a "very switched on clotting system,"[96] and the predisposition to haemorrhage, which led to more bleeding and more clots. Despite Mrs Dunkel being otherwise adequately anticoagulated, her clotting system continued to be very switched on, which he noted was interesting and unusual, and pointed to more information needing to be learnt about the Calreticulin exon 9 mutation and its association with thrombus.[97]

90. I asked Dr McQuillan whether, if it had been known Mrs Dunkel had this genetic mutation, would it have been likely to alter any decision-making as to her suitability to undergo bariatric surgery. Dr McQuillan responded that,

[91] T 59.
[92] T 65.
[93] T 59.
[94] T 60.
[95] T 60.
[96] T 62.
[97] T 62 – 63.

in his opinion, he would probably have advised that she be given thrombophrophylaxis after surgery[98] (which she was). It does not seem that he would have recommended against the surgery being undertaken, although I note Mrs Dunkel would have had to be informed that she had an additional risk factor.

91. Based upon all the available evidence, and taking into account in particular the evidence of Dr McQuillan in relation to Mrs Dunkel's predisposition to clots, I find that the manner of death was by way of natural causes.

GUIDELINES OR CRITERIA FOR BARIATRIC SURGERY

92. No criticism has been made of Dr Watson's technical performance of the sleeve gastrectomy or any other aspect of his post-operative care. It was all considered to be at or above the expected standard of a surgeon operating in Australia.[99] The only real issue that was raised was how Mrs Dunkel came to be having the surgery, given her relatively low BMI and vague co-morbidities when compared against the general criteria for undergoing bariatric surgery in Australia.

93. Associate Professor Michael Talbot is a Consultant Surgeon at St George Hospital in New South Wales. His specialty is Upper Gastrointestinal and Bariatric surgery and he has performed thousands of bariatric surgeries, including sleeve gastrectomies. Professor Talbot also has significant involvement in the management of complications of bariatric surgery.[100] Professor Talbot was asked to review Mrs Dunkel's case and provide an opinion to the Coroner's Court regarding Mrs Dunkel's medical treatment prior to her death.[101]

94. Professor Talbot explained that,[102]

> *bariatric surgery is designed to alter foregut anatomy and physiology in order to reduce eating capacity and increase satiety during and after meals. Because of the risk involved in surgery it cannot be universally applied to all patients with a weight problem and to this end a number of guidelines have evolved over the last two decades.*

95. Professor Talbot advised that in Australia, reviews of appropriateness of bariatric surgery and indications for surgery have been formulated by the Medical Services Advisory Committee and the National Health and Medical Research Council (NHMRC) with support for these guidelines from the Australasian College of Physicians, the Australasian College of General Practitioners and the Australasian College of Surgeons.[103]

[98] T 63 - 64.
[9999] Exhibit 1, Tab 8, p. 4.
[100] T 5.
[101] Exhibit 1, Tab 8, p. 1.
[102] Exhibit 1, Tab 8, p. 1.
[103] Exhibit 1, Tab 8, p. 2.

96. Whilst the details of the recommendations vary and have evolved over the last decade with the introduction of new data, Professor Talbot indicated there is sufficient agreement across the board to state that:

    i. Severe obesity, defined as persisting excess of adipose tissue (fat), is an indication for bariatric surgery in the absence of medical co-morbidities. A BMI of 40 has been chosen for this cut-off;
    ii. A significant focus of treatment of the obese patient is therapy for severe morbidities associated with obesity and these morbidities are a separate indication for patients under a BMI of 40.

97. Professor Talbot explained that the reason for creating indications for bariatric surgery that are not necessarily related to BMI are because:

    i. Severe or poorly controlled morbidities associated with weight, which are known to respond to bariatric surgery, are not correlated with BMI in many individuals (an example would be an individual with a BMI of 32 but with severe diabetes). While the number of patients with severe co-morbidities that act as an indication for surgery are less prevalent in patients below a BMI of 40, they are sufficiently prevalent, and surgery sufficiently effective, to justify its consideration.
    ii. Various racial groups have increased metabolic disturbances occurring at lower BMI's than Caucasians and it is extremely difficult and inappropriate to use race as a way of defining eligibility for treatments.[104]

98. For the sake of brevity, Professor Talbot defined a severe co-morbidity in his report as "a medical or physical illness where chronic therapy is insufficient to normalise function and/or risk of progression to organ or life-threatening illness. Using that definition, Professor Talbot gave the example that a person with easily controlled essential hypertension would not be viewed as having severe co-morbidities nor would somebody with easily controlled familial associated hypercholesterolaemia. However, patients with a combination of the metabolic syndrome (a cluster of conditions that increase the risk of heart disease, stroke and diabetes) requiring multiple medical therapies and having clinical manifestations of metabolic disease would be viewed as having severe disease. Another example given was a patient with sleep apnoea. Somebody who snores but has no or only a mild sleep disturbance would not be viewed as having a severe co-morbidity but a patient requiring a nocturnal CPAP machine, would be viewed as having a severe co-morbidity.[105]

99. BMI is calculated by dividing weight by the square of height. The general classification is:

    - <18.5 Underweight
    - 18.5 – 24.9 Healthy weight range
    - 25.0 – 29.9 Overweight
    - 30.0 – 34.9 Obesity I

[104] Exhibit 1, Tab 8.
[105] Exhibit 1, Tab 8.

- 35.0 – 39.9 Obesity II
- ≥ 40.0 Obesity III.

100. There is some criticism of BMI as an indicator of healthy weight, as it doesn't distinguish between fat and muscle, which is denser than fat, so some lean but muscular people may record a high BMI. Further, BMI is not a good measure of how much fat a person carries when their BMI is less than 35.[106] Nevertheless, it is generally an accepted guide for determining if a person is overweight.

101. As noted above, Mrs Dunkel fell into the lower end of the Obesity 1 category with a BMI of around 30. Professor Talbot gave evidence that, while a normal BMI is less than 25, roughly one in three Australians have a BMI of 30 or above. "So if you were walking down the street, one in three people you met would be of a similar size."[107] Of those people, Professor Talbot considered only a minority would be candidates for bariatric surgery.[108]

102. Professor Talbot accepted that there are some issues with the guidelines, as they presently stand. He noted that in the early 90's bariatric operations were large, open procedures with a significant complication rate and death rate. As surgery has become safer and post-surgical care more refined, there has been a progressive greater analysis of indications based on outcomes instead. Therefore, Professor Talbot noted that what tends to happen is that practice precedes outcomes. That is to say, there is a degree of conservatism in the guidelines and often practice will move ahead of the guidelines, and eventually the guidelines will move towards what is common practice.[109]

103. Professor Talbot also noted that guidelines may not cover unusual circumstances or the diseases or outcomes that you are looking at for a particular patient. Therefore, as Professor Talbot put it, "guidelines are good for general discussions, but they are not always ideal for determining what to do with your patient."[110]

104. Nevertheless, Professor Talbot noted that in Australia, bariatric surgeons tend to follow the American Society of Metabolic and Bariatric Surgery (ASMBS) Guidelines.

105. There was evidence before me that the guidelines have been slowly moving to catch up with practice in recent years. An article in 2016 suggested that there should be a greater focus on diabetes and metabolic syndrome in the categories. The authors' argued that in addition to the traditional categories of BMI >40 or BMI >35 plus co-morbidities, there should be added a category of BMI 30 – 35 and uncontrolled diabetes and also BMI 30 – 35 plus EOSS stage ≥2. I explain what EOSS is below. The only patients the authors felt should be automatically excluded is any person with a BMI< 30.[111]

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[106] T 12.
[107] T 6.
[108] T 26.
[109] T 9.
[110] T 9.
[111] *Revisiting the Role of BMI in the Guidelines for Bariatric Surgery*, Diabetes Care 2016:39 (Suppl 2): S268-S273, Segal-Lieberman, Segan & Dicker.

106. Two years later, in 2018, the ASMBS issued an updated position statement on bariatric surgery in class 1 obesity (BMI 30 – 35). The statement was developed in response to inquiries regarding the safety and efficacy of bariatric surgery for patients with a BMI of 30 to 35. It states that additional high-quality data has emerged in the past five years to support bariatric surgery in class I obesity and therefore lowering the BMI inclusion criteria of BMI 35, which was established more than 25 years ago.[112]

107. It was noted by the ASMBS that class 1 obesity is associated with increased risk of medical and psychological co-morbidities, with an increased risk of developing diabetes, hypertension and dyslipidaemia. Weight loss can significantly reduce the incidence of these cardiometabolic risk factors. Several studies have shown associations between class I obesity and non-alcoholic fatty liver disease, obstructive sleep apnoea, bone and joint diseases and other.[113] It does say that before considering surgical treatment for obesity for any individual, an adequate trial of nonsurgical therapy should always be required. However, it notes that for most people with class I obesity, it is clear that the nonsurgical group of therapies will not provide a durable solution to their disease of obesity. The majority will not lose weight, and for those who do the majority will regain the weight within 1 to 2 years. Therefore, if their attempts fail, then it is said by the society's position statement that it is appropriate to seek an effective, durable therapy such as bariatric surgery.[114] According to the literature, bariatric surgery is associated with modest morbidity and very low mortality in patients with class I obesity.[115]

108. The updated ASMBS position reflects the criteria that Dr Watson was using at the time he treated Mrs Dunkel. The criteria were consistent with the St John of God Hospital Murdoch guidelines for bariatric surgery in place at the time. The guidelines had been developed with the input of surgeons and were based on a literature review. The criteria specified a BMI ≥ 35 or BMI ≥30 with associated obesity related illnesses such as Type II Diabetes or sleep apnoea. The guidelines were predicated on the treating specialist ensuring the patient had undertaken previous conservative treatment options.[116]

109. Dr Talbot also referred to the Medicare Benefits Schedule Australia, which specifies that bariatric surgery be offered for patients who meet the criteria of clinically severe obesity, specified as a patient with a BMI of 40 or more, or a BMI of 35 or more with major medical co-morbidities (such as diabetes, cardiovascular disease, cancer). However, it also notes that BMI values may vary in different population groups and ethnic groups, so individuals may experience major health risks at a BMI that is below the 35-40 provided for in the definition. Therefore, the decision to undertake obesity surgery remains a matter for the clinical judgment of the surgeon.[117]

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[112] Exhibit 1, Tab 11C.
[113] Exhibit 1, Tab 11C
[114] Exhibit 1, Tab 11C
[115] Exhibit 1, Tab 11C
[116] Exhibit 1, Tab 11.
[117] Exhibit 1, Tab 8; http://www9.health.gov.au/mbs/fullDisplay.cfm?type=note&qt=NoteID&q=TN.8.29.

110. There is a different system, which is said to be more accurate than BMI, known as the Edmonton Obesity Scoring System (also referred to as EOSS but I will generally refer to it as the Edmonton System). This system assumes that the majority of people who are very overweight will have severe conditions associated with their weight. The Edmonton System looks at the sort of conditions associated with obesity in order to select out people who are overweight but well from those people who are overweight and have organ threatening or life threatening disease, which would then justify an escalation of treatment.[118] Professor Talbot stated it was not used routinely as the very large majority of people seeking the surgery are in the very heavy range and it is clear they meet the criteria for bariatric surgery. However, for the minority of patients who are a lighter weight, then the Edmonton System can allow the doctor to focus on the issues that they might try to treat.[119]

111. What I have taken, as a general proposition from all of the above, is that the practice of bariatric surgeons in Australia in 2015 and at the current time, is to accept patients with a BMI of 30 or above only where they have attempted a reasonable period of non-surgical weight loss methods and failed, and have established co-morbidities associated with obesity that are likely to be improved or resolved with significant weight loss. A patient with a BMI of 30 or above and diagnosed Type II diabetes is an obvious candidate, but also patients with established metabolic syndrome and/or severe sleep apnoea would be likely to fall into the category, as well as other patients with a combination of severe obesity-related co-morbidities.

112. Professor Talbot's evidence was that for every person who considers bariatric surgery, the average wait is two to three years and there are another five people who have considered it and not come. Once they attend an appointment, at least one in three people are sufficiently information to make a decision that surgery is not suitable for them.[120] There was evidence before me that the vast majority of these surgeries are performed privately, - with very few bariatric surgeries performed in public hospitals Australia-wide.

DID MRS DUNKEL MEET THE CRITERIA?

Professor Talbot's Opinion

113. Mrs Dunkel's position was considered by Professor Talbot both from the perspective of BMI and the Edmonton System.

114. Using the Edmonton System, Professor Talbot calculated Mrs Dunkel would be seen as a Stage 0 or 1.[121] Professor Talbot acknowledged that another expert, Professor Wendy Brown, provided an opinion on behalf of Dr Watson in which she assessed Mrs Dunkel as a 2 on the Edmonton System. However, Professor Talbot felt that the co-morbidities were relatively minor

[118] T 12.
[119] T 12.
[120] T 22.
[121] Exhibit 1, Tab 8.

and not well described, which is why he disagreed with Professor Brown's result (although he accepted her report as excellent and very well written).

115. Professor Talbot explained that an Edmonton score of Stage 2 is somebody having a moderate disease-related condition, that is, actual diseases associated with their obesity and they are functionally impaired, as opposed to a Stage 1 person, "who has risk factors for disease and are slightly impaired and they are a bit upset about their weight."[122]

116. Professor Talbot's position in terms of Mrs Dunkel's meeting the BMI 30 or more with co-morbidities was in essence the same, in that he did not feel the co-morbidities were sufficiently well established or severe, based upon what was known at the time she was assessed prior to surgery. Professor Talbot considered the co-morbidities (snoring, sore lower back, sore knees) recorded by Dr Bowater were not well defined and required further investigation to constitute an established co-morbidity.

117. I note that part of Professor Talbot's opinion was based upon an understanding that the blood results were not available when Dr Watson met with Mrs Dunkel and the surgical consent form was signed.[123] Dr Watson explained at the inquest that this was a failing on the part of his paperwork, which wrongly gave the impression the consent form was signed on 9 September 2015. Dr Watson confirmed in his oral evidence that he did not see Mrs Dunkel on that date. At the time he saw Mrs Dunkel on 23 September 2015, and the consent form was signed, the blood results had been received and Dr Watson indicated that they played a major part in his clinical decision-making.

118. However, Professor Talbot also expressed a concern that, although the blood results were abnormal in some respects, in Professor Talbot's opinion, if Mrs Dunkel had been in a relationship with a general practitioner, there was a reasonable chance of offering alternative therapy to surgery to treat those issues, but there was no evidence this option had been explored. Professor Talbot observed that Mrs Dunkel's high cholesterol was a common problem and not so high as to count as a disease, but he felt was rather a risk factor for disease. Professor Talbot expressed the view it would first be addressed by a GP by advising a period of exercise and dietary modification, and following that it was easily managed with a low dose cholesterol tablet. Professor Talbot also gave evidence that it is his understanding that conditions such as high blood pressure and high cholesterol are known to respond relatively poorly to surgery.[124] Instead, Professor Talbot considered the majority of primary care physicians and cardiologists would have sought to manage it by lifestyle changes and consideration of cholesterol therapy if it doesn't respond, which in his opinion would be more likely to normalise the cholesterol better than an operation would.[125]

119. In relation to the liver function test, Professor Talbot noted that a gamma-glutamyl transferase (GGT) of that level is highly prevalent in most patients,

[122] T 13.
[123] T 32.
[124] T 10, 28 - 29.
[125] T 29.

with 30 to 40% having a result in their blood tests of that level. Professor Talbot concluded it is "probably an indicator of a slightly fatty liver"[126] but noted the majority of patients with a slightly fatty liver will not progress to significant comorbidities.[127]

120. Professor Talbot accepted the ferritin result was "a difficult one."[128] Professor Talbot indicated that high ferritin can be a marker of a gene abnormality, which causes a condition called haemochromatosis, but it doesn't lead to any disease in the future. It can be also be a marker for alcohol abuse, which would be a direct contraindication for weight loss surgery, although I note there was no evidence Mrs Dunkel engaged in heavy alcohol consumption. Another possible explanation for the high ferritin was that it can be an acute phase reaction if someone has had a cough, cold or flu recently. Further, Professor Talbot accepted that in some people a high ferritin result can be a marker for liver disease related to metabolic disease, Professor Talbot's concern was that in Mrs Dunkel's case, it was not well-defined which of these things it was caused by, so it wasn't in and of itself an indicator for metabolic surgery.[129]

121. As to the coronary risk ratio, Professor Talbot acknowledged it meant Mrs Dunkel had a risk of cardiovascular disease in the future just based on that blood test alone. So some form of therapy or a conversation about therapy was worthwhile. However, again Professor Talbot suggested it should begin with low risk therapies and then escalation to medical therapy, if the first line therapy didn't work.[130]

122. Professor Talbot was asked by counsel for Dr Watson and Dr Bowater, whether putting Mrs Dunkel's abnormal blood results, in particular her higher ferritin results, together with her family history, rang alarm bells for him as a bariatric surgeon. Professor Talbot responded that it did not, "because 30% of the Australian population will have identical bloods to these and would be offered generally low dose, low risk medical therapies to help manage these co-morbidities."[131] In Professor Talbot's opinion, the abnormalities could be mostly controlled by one low dose cholesterol tablet a day.[132]

123. In summary, Professor Talbot expressed the opinion that he did not think Mrs Dunkel had a metabolic comorbidity as he considered her results to be very mild, and although she may have had a functional comorbidity or mental comorbidity, he did not feel they were sufficiently well-described.[133] Therefore, on paper at least, he considered she rated as a Stage 1 patient on the Edmonton Scale.[134] Alternatively, she was a person with a BMI of 30 and risk factors for disease, but no established severe co-morbidities. Professor Talbot stated in his report that he is "unaware of any surgical or

[126] T 28.
[127] T 28.
[128] T 30.
[129] T 30.
[130] T 29.
[131] T 30.
[132] T 30.
[133] T 13.
[134] T 13.

medical society that would support bariatric surgery in patients at this level."[135]

124. Professor Talbot acknowledged that the natural history of traditional obesity therapies is that transient therapies have transient results. So 95% of patients will return to their pre-treatment weight and only 1 in 20 will sustain weight loss long-term. So if a patient is at a BMI of 30, but was much higher and has got down to that weight and is struggling to maintain it, that would put them in a different category to someone like Mrs Dunkel, who has generally been a healthy weight and has only recently in life moved into the obese range.[136]

125. For a patient with a relatively low BMI as compared to the guidelines, who has not previously been severely obese and without clearly established co-morbidities, Professor Talbot considered a decision to proceed with surgery in those circumstances required a greater level of documentation than was prepared in this case. In particular, Professor Talbot felt there was insufficient information in the medical notes documenting the discussion about the risks and benefits of surgery.

126. Professor Talbot expressed the opinion that "as surgery has become progressively safer the indications for surgery have become somewhat blurred and most practitioners face on a regular basis, patients who are medically well and carrying only minimal excess adipose tissue seeking surgery based on their ability to afford it." Professor Talbot's own experience has been that "there has been a gradual lowering of BMI criteria for surgery in patients who are medically and metabolically well and it is likely that surgery for cosmetic indications is likely to increase."[137] Professor Talbot gave evidence that he did not see it ten years ago, but now he would see a patient every week who has the desire for weight loss surgery driven by a desire to look and feel good, rather than for medical reasons.[138]

127. Professor Talbot stated his belief that patients self-referring in the lower BMI range creates a problem or potential problem of patients seeking surgery without really understanding how serious it is. He expressed concern that this will continue to become more prevalent as the lower limit of what's acceptable with regards to weight and health aren't well defined. Professor Talbot expressed a concern that there is a danger of people being over-serviced medically, where the potential benefits of surgery are not as great as the potential risks. However, Professor Talbot also noted that they still need to be able to offer therapy to sick people who are lighter.[139]

128. Professor Talbot described the process of selecting a patient for bariatric surgery as requiring a complex assessment. He said that, broadly speaking, "somebody has to be heavy enough to benefit from weight loss and well enough to tolerate surgery."[140] Professor Talbot indicated the heavier the

[135] Exhibit 1, Tab 8.
[136] T 25.
[137] Exhibit 1, Tab 8, p. 3.
[138] T 33.
[139] T 16.
[140] T 8.

person, the more significant weight loss that can be achieved. Where the person has diseases, Professor Talbot noted that generally they are looking for diseases that cannot adequately be treated in another way. Therefore, if a person has sought treatment for their weight and medical conditions, without success, "then that will make you think that something reasonably radical like surgery might be worthwhile."[141]

129. Professor Talbot expressed the opinion that performing "sleeve gastrectomy on patients who are not significantly overweight and who lack significant medical morbidities, creates the possibility of having patients in the future who are normal weight but require therapy for ongoing medical conditions and side-effects created by the surgery and also the possibility of side-effects from surgery in patients who have regained their weight."[142]

130. Professor Talbot noted there are complications and side-effects of sleeve gastrectomy surgery, both short term and long-term. In the short-term, Professor Talbot described the major complications as intra-abdominal infections, severe bleeding or blood clots. He noted that thankfully, they are quite rare. In the centre where Professor Talbot works, major complications occur in less than 1% of patients, but there are publications that put the rate at up to 4%.[143]

131. However, the late complications are significantly more common.[144] Professor Talbot explained that the operation changes the function of the stomach permanently. So some of the important roles of the stomach are no longer being undertaken, specifically some vitamin and mineral absorptions require food to sit in acid. If a person has a small stomach, the time in the stomach is a lot less, so iron deficiency and osteoporosis and some vitamin deficiencies can occur. Therefore, most patients will need some sort of supplementation and if they don't take supplements, they will develop nutritional disorders. There is also a risk of medical and functional disorders requiring medication in the order of 10 to 15%. For example, approximately 10-20% will also get reflux, which can require lifelong medical therapy. So bariatric patients need ongoing surveillance and ongoing therapy to stop them from getting side effects of the surgery.[145]

132. Professor Talbot's evidence was that there is reasonable data showing that while weight loss occurs in the large majority of patients, a degree of weight regain is almost inevitable after a few years, in the range of 5 to 10 kg. There is also a late reoperation rate of somewhere between 10 and 30% for conversion to other operations for either weight regain or development of late complications.[146]

133. Further, although there are a lot of psychological benefits to losing weight, Professor Talbot also noted that there is a small but significant risk of alcohol and drug addiction and suicide, which is higher in the post bariatric

[141] T 8.
[142] Exhibit 1, Tab 8, p. 3.
[143] T 8.
[144] T 8.
[145] T 23 - 24.
[146] T 7; Exhibit 1, Tab 8, p. 3.

population than it is in the baseline population for a number of reasons. People's psychological wellbeing may improve initially but they will often return to baseline down the track. If a person has addictive behaviours with food, they can potentially transfer those addiction to alcohol or drugs.[147]

134. Professor Talbot considered that in the case of Mrs Dunkel, there did not appear to be "a clear medical indication for surgery"[148] which might outweigh the risks. From his reading of the notes, the discussion prior to surgery did not show an identification of a severe medical problem trying to be treated. Therefore, Professor Talbot concluded that from the paperwork, it looked like a weight loss treatment, rather than a treatment targeted at specific weight-related illnesses, which concerned him.[149] Professor Talbot indicated he would generally be looking for a comorbidity which is likely to be significantly improved by the therapy being offered, such as type II diabetes,[150] or be seeking a second opinion regarding a co-morbidity that was not well defined, to establish what conditions the surgery was trying to treat.[151]

135. In Mrs Dunkel's case, Professor Talbot was concerned that as the comorbidities were not well defined on paper, there was no evidence the comorbidities were sufficient to respond to weight loss surgery.[152] Professor Talbot commented that "it does behove us as clinicians to diagnose a problem that we're going to treat before offering people therapy."[153]

136. Although there was reference to Mrs Dunkel having sore knees, snoring and lumbar back pain as all possible indicators of a weight-loss related comorbidity, Professor Talbot suggested that they required further investigation before they could qualify, as they could also be considered to be an age-related comorbidity as much as anything else. As Professor Talbot put it, "the devil is in the detail,"[154] and unless the comorbidity has been clearly defined, it is very hard to offer somebody surgery as the target has not been defined.[155] Professor Talbot also observed that in a very overweight person, it might be easier to consider these issues as weight related and there to be no useful way to improve them other than surgery, but in a lighter person other options might be available. For example, such as an exercise program with an exercise physiologist two to three hours a week, may have the same or better impact.

137. At the time he prepared his report, Professor Talbot expressed the view that it appeared Mrs Dunkel was "seeking a cosmetic procedure"[156] that was not medically indicated in somebody with her characteristics, although she obviously felt the probability or possibility of benefits would justify the procedure in her eyes. In his oral evidence Professor Talbot resiled somewhat

[147] T 24.
[148] Exhibit 1, Tab 8, p. 3.
[149] T 9.
[150] T 10.
[151] T 16.
[152] T 16 - 17.
[153] T 17.
[154] T 10.
[155] T 10 – 11.
[156] Exhibit 1, Tab 8, p. 3.

from this statement and said that he felt perhaps his use of the word cosmetic in his written report was "a little bit strong."[157] However, he said he was not sure what else to call an obesity therapy when no one has necessarily highlighted the medical conditions that are to be treated.[158]

138. Professor Talbot agreed that autonomy is a big part of surgical decision-making, but also noted that "the surgery does entail very significant short and long-term risks which have to be balanced against the patient's desire for treatment."[159] He gave the example of a patient asking a GP for antibiotics when they have a cold, which is inappropriate and emphasised that doctors must balance autonomy and patient desires with a medical argument.[160]

139. Professor Talbot accepted that Mrs Dunkel was expressing her own autonomy very strongly in seeking weight loss surgery. Professor Talbot also accepted that it is very difficult to persuade patients out of surgery as they have often been thinking about it for a long time. In Mrs Dunkel's case, he accepted that it appeared she was highly motivated to have the surgery and was probably able to present an argument detailing why she preferred to have such surgery. There is also the risk that if their request is not granted, a patient will simply move on to another surgeon.[161] Nevertheless, in the case of Mrs Dunkel Professor Talbot felt he would have probably wanted some more work done to investigate her health issues, such as a sleep apnoea test and to make enquiries about what other therapies she had attempted. Professor Talbot also said it is his routine for lighter patients who do not necessarily fall within the current guidelines to seek the opinion of a psychologist beforehand to establish what is the motivation for surgery and to allow the patient a period of time to reflect upon the impact of surgery and what they are hoping to achieve.[162]

140. At the least, Professor Talbot said in evidence that in this case, he "would have liked to have seen a comment that she was outside the range of people usually seeking weight loss surgery" as he felt "uncomfortable about body mass index 30 patients being viewed as relatively normal participants in weight loss surgery."[163] Professor Talbot accepted that it is "clinically inappropriate to deny somebody therapy based on their BMI alone"[164] but felt the issue here was to define whether there was a significant comorbidity and whether that comorbidity was likely to respond to weight loss.[165] Professor Talbot summarised his concern as being that you can provide more good by treating people who need it, but there's also the risk of treating people who many not necessarily derive benefit.[166]

[157] T 15.
[158] T 15.
[159] T 31.
[160] T 31.
[161] T 11.
[162] T 12.
[163] T 11.
[164] T 18.
[165] T 18.
[166] T 21.

141. Professor Talbot ultimately agreed that "the responsibility for making the decision, good or bad, rests upon the clinician seeing the patient. And if the clinician can defend or articulate the reasons why they offered the therapy, then that's reasonable." However, based upon the medical records, Professor Talbot felt those reasons in Mrs Dunkel's case were not easily discernible.[167]

142. This then leads to a consideration of Dr Watson's evidence as to why he agreed to perform the sleeve gastrectomy on Mrs Dunkel.

Evidence of Dr Watson

143. Dr Watson emphasised in his evidence that patients who come to him requesting surgery do not automatically get surgery. He noted that patients who have unrealistic expectations about what the surgery can achieve will be refused. Similarly, patients who have a BMI below 30 will be refused, with Dr Watson giving the example of a person with a BMI of 29 as a person who would be refused the surgery by him.[168] Dr Watson suggested that the surgeons must work within the set parameters and currently a BMI of 30 is the cut-off, at least as far as being eligible for a Medicare rebate for the surgery.[169] Dr Watson did say he understood that there are people who have had weight loss surgery with a BMI lower than 30, although it is not something readily offered.[170]

144. I understand that there must always be cut off points, but it does seem surprising that a person with a BMI of 29 would automatically be refused, yet Mrs Dunkel, with a BMI of either 30 or 30.5, would be granted her request for surgery without any attempt to delay her and give her a further opportunity to try alternative methods of weight loss, or a clearer documentation of the health issues she faced.

145. Dr Watson's evidence was that he did not discuss with Mrs Dunkel alternatives to surgery. Dr Watson observed that usually when people come to see him they have tried other things and have done extensive research on the internet and spoken to other people. They will say they cannot see anything else they can do to lose weight and feel they have reached the end of the road with other options.[171] Dr Watson gave evidence that Mrs Dunkel was such a patient, who had done research and reached a very firm decision about wishing to undergo surgery, and indeed the type of surgery she wanted.[172]

146. Dr Watson explained that in the case of Mrs Dunkel, it was not just her desire for surgery, and her BMI of 30.5 that prompted his decision, but more importantly the fact that she "qualified for a metabolically abnormal situation on the basis of her blood test,"[173] that led him to form the view that she was a suitable candidate for metabolic surgery. Dr Watson maintained

[167] T 33.
[168] T 72 – 73.
[169] T 73.
[170] T 73.
[171] T 80.
[172] T 81.
[173] T 75.

that Mrs Dunkel's significant metabolic disturbances warranted metabolic surgery as she ran a higher risk of developing certain health conditions, such as type II diabetes and fatty liver disease, if she did not lose weight.[174] Dr Watson gave evidence that metabolic surgery has been shown to be very effective in treating type II diabetes in particular, which was consistent with Dr Talbot's evidence, although I note that Mrs Dunkel was only felt to be at risk of developing the condition given her family history.[175]

147. Dr Watson accepted that, as suggested by Professor Talbot, Mrs Dunkel could have been put on low dose statin therapy to improve her cholesterol, but maintained this would not have assisted her fatty liver disease.[176] Dr Watson accepted that there might be other causes of the fatty liver disease other than weight, agreeing it can be related to excessive alcohol consumption or a gene abnormality (haemochromatosis), but noted that Mrs Dunkel did not report heavy alcohol consumption and had no family history of the gene abnormality.[177] On the other hand, Dr Watson noted it is not uncommon to find patients who have obesity with raised ferritin levels, which is an indicator for metabolic surgery.[178]

148. Further, Dr Watson expressed the opinion that there is a strong relationship between weight loss and weight loss surgery and reduction of triglycerides and fatty liver disease.[179] Dr Watson acknowledged that his evidence that triglycerides respond to weight loss surgery was contrary to the evidence of Dr Talbot but, with deference to Dr Talbot, maintained that in his experience the triglycerides tend to come down quite quickly after weight loss surgery and after six months have either normalised or certainly dramatically reduced. In addition, with many patients, their blood pressure normalises and their diabetes improves quickly. Dr Watson acknowledged that cholesterol seems to take a bit longer to improve.[180]

149. Dr Watson indicated that where patients are left to first develop severe diabetes and heart disease, the risk of the surgery goes up. Further, it is known that patients who have metabolic surgery and a lower BMI lose a lot more weight in terms of heading back towards a healthy BMI of 25, and do a lot better than patients with a very high BMI to start with. So as Dr Watson put it, "how long do you wait before they become really sick before you offer them what's very effective surgery?"[181]

150. Dr Watson was firm in his position that Mrs Dunkel was not seeking, nor offered, the surgery for purely cosmetic reasons. He expressed the opinion that in Australia a person seeking such an operation for purely cosmetic reasons would not be able to have the operation and would most likely have to look overseas for a surgeon willing to undertake it in such

[174] T 75 - 76.
[175] T 77.
[176] T 71.
[177] T 71.
[178] T 71.
[179] T 70.
[180] T 70 – 71.
[181] T 80.

circumstances.[182] Dr Watson's evidence was that he would send such a person to see a dietician and exhaust avenues of weight loss.[183]

151. Dr Watson accepted that a patient such as Mrs Dunkel would not be in the category of high BMI, high risk patient that he would urge to have the surgery. Instead, he suggested she was in the category of patient in the lower BMI range who would satisfy the criteria but would have to indicate to Dr Watson that the surgery is important to them in order to lose weight for health reasons. Dr Watson indicated that since Mrs Dunkel's death, in similar cases of a patient with a lower BMI seeking the surgery he asks them to write a letter telling him why it is important to them to have the surgery.[184] Dr Watson's evidence was that he also reminds every patient that it is a major procedure they are considering, with potentially severe complications, including death.[185]

152. I raised with Dr Watson my concerns about some prominent local advertising I have seen promoting weight loss surgery with images of toned young women in an exercise class and a headline about why diet and exercise won't cure obesity. Without commenting on any individual practitioner, Dr Watson agreed that there is a worrying trend where metabolic surgery is promoted with this type of emphasis, and he agreed that it can detract from the seriousness of the operation. Professor Talbot noted that there are similar advertisements seen across the country that "run the risk of presenting a non-medical face to what is essentially a medical therapy."[186] He accepted "there is a risk of turning the flavour from a medical therapy to a cosmetic therapy."[187]

153. Dr Watson said in conclusion that no surgeon wants to lose a patient, and expressed his frustration in the sense that, despite the post-surgery events being unexpected and catastrophic, two or three times he and the other doctors involved felt they had saved Mrs Dunkel. Mrs Dunkel was initially very unwell with the ruptured spleen and it involved a dramatic operation and risk that she might not survive, as not everyone recovers from a ruptured spleen. However, Mrs Dunkel recovered from that event, and she also recovered very well from small bowel ischaemia. Not long prior to her death she was talking about going home. She then developed the deep vein thrombosis and a filter was put in, which again was felt to have successfully dealt with the problem and saved her life. Even at the end, as Dr Watson was traveling in to the hospital, he was exploring other options with the cardiothoracic team thinking there might be a way to save her. Her death, after all these events, Dr Watson described as an "absolute tragedy."[188] Dr Watson expressed his sympathy to Mrs Dunkel's family, as he understands that people do not expect to come in for elective surgery and have a bad outcome.[189] Nevertheless, Dr Watson emphasised the

[182] T 76 - 78.
[183] T 79 – 80.
[184] T 78 – 79.
[185] T 83.
[186][186] T 22.
[187] T 22.
[188] T 83.
[189] T 82 - 83.

unpredictable nature of Mrs Dunkel's condition, and the fact that there was evidence she could have succumbed at any time.

154. In relation to Professor Talbot's criticism of the documentation, Dr Watson accepted that there were some issues with the documentation that could have been improved, and he has replaced the previous verbal discussion about why a patient is seeking the surgery with a requirement that patients at the lower end of the BMI range write a letter to him outlining their reasons. Dr Watson also notes the risks and benefits on a scale, which he records and scans and puts into the medical records and provides a copy to the patient.[190]

Opinions of other experts

155. As noted above, Professor Wendy Brown provided a report on behalf of Dr Watson as to whether the gastric sleeve procedure was indicated for Mrs Dunkel. Professor Brown is a General Surgeon with a subspecialty interest in upper gastrointestinal and bariatric surgery. Amongst other things, Professor Brown is the Chair and Head of the Monash University Department of Surgery at Alfred Hospital and the Past-President of the Obesity Surgery Society of Australia and New Zealand. Professor Brown reviewed the relevant materials and expressed the view that there was a medical indication for gastric sleeve surgery in Mrs Dunkel's case. Professor Brown considered Mrs Dunkel could be classified as having Metabolically Abnormal Obesity, meaning she was at high risk of developing conditions such as diabetes and cardiac disease as well as other diseases related to her obesity. That risk was increased by her family history of diabetes, as well as potentially by her pro-inflammatory state, as reflected in her elevated Ferritin. Therefore, Professor Brown expressed the opinion that Mrs Dunkel's surgery was "intended as a health-giving option rather than a cosmetic procedure."[191]

156. However, I note that Professor Brown goes on to say that patients with a BMI between 30 and 35 should be encouraged to lose weight to improve their health, and the treatment should start with dietary modification, then if necessary include pharmacotherapies. Bariatric Surgery should only be considered if other therapies have not been successful, there is likely to be health benefit from the surgery and the surgical risk is low. Professor Brown was instructed that Mrs Dunkel had tried less invasive means of weight loss without success, but does not mention any attempt to manage her cholesterol or other conditions by way of medication, as suggested by Professor Talbot in the form of cholesterol therapy.[192]

157. As to the risks of surgery, Professor Brown agreed with Professor Talbot that there is a risk that a patient in a low BMI range will achieve a normal weight after sleeve gastrectomy but require treatment for nutritional side effects and reflux. However, she noted it is possible that this situation may be preferable to the given individual, and pose less risk to their health, than obesity.[193]

[190] T 69, 72, 78 - 79.
[191] Exhibit 1, Tab 16A, p. 6.
[192] Exhibit 1, Tab 16A.
[193] Exhibit 1, Tab 16A.

158. Similar opinions were provided by Dr Phil Lockie, an Upper GI Bariatric Surgeon,[194] and Dr Reza Adib, a General and Laparoscopic Gastrointestinal Surgeon.[195]

159. I note that all of the expert opinions provided, other than Professor Talbot's, relied upon Mrs Dunkel having undertaken non-invasive approaches to weight loss, with modifications to diet and/or exercise for a reasonable period of time with limited to no success prior to seeking surgery.[196] I accept there was evidence she had attempted some dietary weight loss programs on her own volition, but did not see any evidence of an exercise program or any consultation with a GP about lifestyle modification. I agree with Professor Talbot's opinion that it is generally appropriate to explore non-surgical methods before moving to a surgical option, which carries higher risks of complications, and it is preferable that there is documented evidence of what has been attempted. More could have been done in this case to isolate what Mrs Dunkel had done to try to lose weight through lifestyle changes.

160. Professor Talbot also accepted Professor Brown's opinion that Mrs Dunkel was at high risk of developing a condition such as diabetes, cardiac disease or other diseases related to her obesity, but indicated that there are therapies doctors can offer people who are at risk of developing these conditions, such as lifestyle management and medications, without surgery. Professor Talbot said he could not see any evidence that there was any attempt to manage these comorbidities without surgery, despite the fact that most of them can be very well managed medically.[197] In Professor Talbot's opinion, "there wouldn't be a GP in Australia who wouldn't have a diabetes prevention plan for somebody like Mrs Dunkel."[198] Again, I accept that more could have been done to explore non-surgical options for managing Mrs Dunkel's cholesterol and other health conditions.

161. Nevertheless, the evidence was clear that Mrs Dunkel had given the matter a lot of thought and felt that it was the right choice for her. She also had a family history, and abnormal blood results, that pointed to a likelihood that she would develop serious obesity related health conditions if her weight was not reduced quickly. I accept the evidence that metabolic surgery has the fastest weight loss results, and is most likely to result in long-term maintenance of that weight loss, which is an important factor in a case like this.

162. My greatest concern going into this inquest was that the practice of bariatric surgery was moving so far beyond the established guidelines that a patient like Mrs Dunkel was being allowed to put her life at risk for purely cosmetic reasons, based upon a perception that weight loss surgery is a simple and convenient way to lose weight, without understanding the short-term and

[194] Exhibit 1, Tab 18A.
[195] Exhibit 1, Tab 19A.
[196] Exhibit 1, Tab 18A, p. 1; Exhibit 1, Tab 19A, p. 1.
[197] T 31.
[198] T 31.

long-term risks of complications. I am satisfied, based upon the evidence before me, that this was not in fact the case.

163. In summary, the evidence before me was that patients with a BMI between 30 and 35 should be encouraged to lose weight to improve their health and the treatment should start with dietary modification, then if necessary include pharmacotherapies. Bariatric surgery should only be considered if other therapies have not been successful, there is likely to be a health benefit from the surgery and the surgical risk is low. I am satisfied, based upon all the evidence before me, that Dr Watson was entitled to form the opinion that Mrs Dunkel fell into this category and was an appropriate candidate for surgery.

164. I am satisfied from hearing the evidence of Dr Watson that he formed a clinical judgment that along with her BMI of 30 or 30.5, Mrs Dunkel had established weight-related co-morbidities that would benefit from metabolic surgery. His decision was based upon the abnormal blood results and an understanding that Mrs Dunkel was unlikely to lose her extra weight through conservative weight-loss methods. Dr Watsons' clinical judgment is supported by the opinions of a number of other expert opinions.

165. Professor Talbot took a different, more conservative view. Given Mrs Dunkel only just fell into the obesity 1 category, Professor Talbot felt that there were other, non-surgical options that ought to have been explored more fully first, or at least more investigations done to establish the health conditions that Mrs Dunkel had that would benefit from surgery. From my position as a coroner, who regularly sees the rare surgical cases where things go wrong, I prefer the more cautious approach of Professor Talbot. However, I accept that Dr Watson was entitled to form the professional opinion that Mrs Dunkel was a suitable candidate for the sleeve gastrectomy. In reaching that opinion, I understand that Dr Watson was balancing the benefits against the usual risks that patients of the surgery face, without any knowledge of Mrs Dunkel's undiagnosed pre-existing haematological condition.

166. Dr McQuillan described the rare nature of Mrs Dunkel's pre-existing condition and the difficulty in detecting it prior to the event. He described Mrs Dunkel's condition as 'a time bomb, which could have gone off at any time' and expressed his opinion the whole sequence of events that led to her death may or may not have been precipitated by the surgery. I am, in those circumstances, unable to form the conclusion that Mrs Dunkel's surgery precipitated her splenic rupture, although there is evidence to suggest it may have played a role.

167. When the splenic rupture was detected, I am satisfied all appropriate efforts were made to try to treat Mrs Dunkel and save her life, but sadly her death was unable to be prevented.

168. One thing that became apparent in this case was that the documentation in the medical records did not allow for a full understanding of the discussions and decision-making that led to the surgery taking place. It was only after receiving further reports and hearing oral evidence, that a full picture could

be formed that allayed initial concerns that Mrs Dunkel had no medical condition that was intended to be treated by the surgery, and rather it was being pursued as a supposedly 'easy' means of weight loss.

169. Dr Watson gave evidence that he has altered his practices to allow for better documentation of the discussions about risks and benefits with a patient who is a less obvious candidate for metabolic surgery when judged against the standard criteria. This includes asking the patient to write down why having the surgery is important to them. I commend this practice to other bariatric surgeons in these more borderline cases, as it gives both the patient an opportunity to really think through their reasons for moving forward with such a big step, as well as helping the surgeon to understand their motivation and manage their expectations.

CONCLUSION

170. Mrs Dunkel died from a rare haematological condition, which was not reasonably detectable prior to her undergoing bariatric surgery. While the medical chronology suggests that the surgery may have precipitated a cascade of adverse medical events, the expert evidence before me does not allow me to reach that conclusion to the requisite standard.

171. Nevertheless, there was evidence heard in this inquest that serves as a reminder that there are short-term and long-term risks involved in undergoing bariatric surgery that should be considered by every person who is considering whether it is the right procedure for them, particularly for people falling into the lower end of the usual criteria, where lifestyle changes may produce similar results with less risk.

S H Linton
Coroner
21 June 2019