

Follow-up after bariatric surgery



azdelta

Uw ziekenhuis.

Content

1. Before the operation	4
2. Day of surgery	5
3. Day after surgery	6
4. Discharge	7
5. Follow-up post surgery	10
9. General follow-up and advice	17
10. Annual check-ups	20
11. More information?	20
Nursing prescription	23
Physiotherapy prescription	25
Pre-Diet Reimbursement Request	27

Dear patient,

Good follow-up is key to your well-being and the successful outcome of a bariatric procedure in the short and long term. Your motivation, cooperation and a relationship of trust play an important role in this.

It's a new start! You may already rejoice at the thought of a fitter body. You may feel a little insecure at first, but we are happy to be here to assist you with words and actions.

In the “**Nutritional advice for bariatric surgery**” and “**Protein intake after bariatric surgery**” brochures you can find more information about meal composition and healthy eating habits. These brochures are available from our dietary department (for contact details, please see back cover).

In this brochure, we will take a closer look at the procedure and the general follow-up care for our patients. We list the most common points for attention in chronological order. We took inspiration from the KCE report on bariatric surgery, which was published in 2019 (Belgian Health Care Knowledge Centre).

Standard **multidisciplinary** follow-up is recommended: with your GP, surgeon, dietician, and possibly psychologist. You may also have exercise sessions.

If you would like more information, please do not hesitate to get in touch.

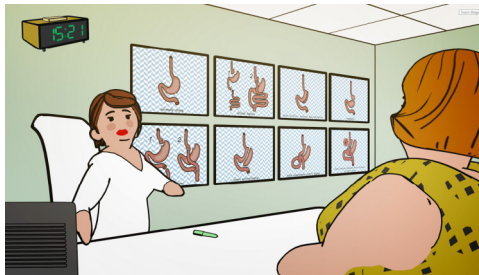
We wish you all the best,

The AZ Delta obesity team

1

Before the operation

10 days before the operation, you must follow a suitable diet: a protein-rich diet to ensure the liver is optimally unswelled. All information about the duration and type of diet will be provided by the dieticians. If you opt for a ready-made keto and high-protein diet (see doctor's order form), you are entitled to reimbursement with a number of hospitalisation insurance policies. Ask your surgeon about this (certificate at the back of this brochure).



The secretarial staff are there to provide additional support with the administrative tasks that must be arranged: completing the pre-operative questionnaire in the patient booklet, arranging an appointment with the admission preparation department (DVO) and possibly a prior check-up with the GP or specialist (filling in the questionnaire, ECG, blood tests) and reserving your room. Ask your GP to adjust your medication for the operation if necessary.

The day before the procedure, you will receive the admission time by telephone.

You must not eat anything as from midnight. You may have a maximum of one glass of a clear drink (non-sparkling water, clear apple juice, coffee or tea with sugar, but no milk) up to two hours before surgery. Consult your GP or specialist before taking any medication on the morning of the operation.

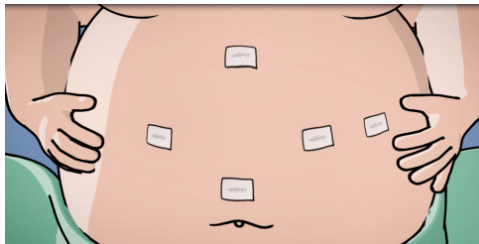
2

Day of surgery

You will be admitted to the hospital at the agreed time. You should register at the main entrance at the reception desk with your ID card. If necessary, bring your hospitalisation insurance card (depending on the health insurer). If you are a patient with obstructive sleep apnea syndrome (OSAS), bring your CPAP device to the hospital.

You will be assigned your room on the ward. Store valuables in the safe (or leave them at home). The dietitian will come by and talk you through nutrition after bariatric surgery with a climbing schedule. You will also be given surgical clothing and any body hair (between the nipples and navel) will be removed. Go to the toilet before leaving for the operating theatre.

In the preparation room you will be administered an IV and given antibiotics. We will then take you to the operating theatre. The anaesthetist will greet you there and ask you some questions. Be sure to indicate if you have any allergies as well as if you have experienced nausea with antibiotics in the past. The procedure should last approximately 45-60 minutes. You will wake up in the recovery room. If necessary, we will switch on your CPAP device to regulate your oxygen needs.



Once you are fully awake, you can go to your room. You can start drinking **water** quite soon after and we will ask you to **get out of bed** during the day, e.g. for toilet visits (with the help of a nurse).

This promotes oxygen levels in the blood, blood flow in the lower extremities and prevents muscle stiffness. Let us know if the painkillers are insufficient.

FAQ: What is the risk of death from bariatric surgery?

The short-term surgical risks of bariatric surgery are similar to other commonly performed scheduled operations such as gallbladder removals and hysterectomies and are lower than in knee or hip replacement surgery or colon surgery. These findings are based on randomised controlled trials and observational research.

In the longer term, observational studies show that bariatric surgery prolongs a healthy life: the relative risk of premature death from diseases caused by obesity falls by about 30 to 45 percent.

Source: KCE 2019 report

3 Day after surgery

You can enjoy a small breakfast, snack and a light lunch. Don't force anything, but if you manage to eat without problems, you may be able to **go home**. Some patients need to stay in the hospital longer: inform your surgeon in advance.



The surgeon in charge of your care will come to the room and give you some extra advice before you leave the hospital. You will have a check-up with the surgeon and dietitian.

4

Discharge

You will need to go to the pharmacy with your ID card to collect the **medication**. We generally prescribe painkillers (Paracetamol - soluble tablets or sachets, 1 g, max 4x per day), gastric protectors (Omeprazole or Pantoprazole 40 mg per day for three months or indefinitely for smokers) and antithrombotic syringes (Clexane or Fraxiparine for 10 days). You can administer these injections yourself (abdomen or thigh) or you can have a home nurse (prescription at the back of this bundle) come by. This is your choice.

The stitches will either dissolve (under the skin) or must be removed about 10 days after the procedure. Your doctor will let you know. You may shower, provided you wear the appropriate dressings, but you will have to wait until you are allowed to swim (on average 2-3 weeks after the procedure).

Try to get **moving**, but avoid lifting (do not lift more than 5 kg). After all, abdominal muscles need to heal. Patients usually find the wound on the left to be the most painful.

The **GP** plays an important role in adapting or reducing certain medication.



On the discharge letter (mijn.azdelta.be), hospital pharmacists may give advice regarding some medicines. This may involve reducing/stopping diabetes medication, reducing blood pressure lowering medication, adjusting the dosage of the pills, avoiding anti-inflammatory drugs (NSAIDs), avoiding oral contraception (“the pill”), etc. Contact your GP to discuss this.

Drinking water can be difficult after gastric surgery. Still make sure you drink enough (1.5 litres per day) to prevent kidney stones, bladder inflammation, dehydration and constipation. Small tips to help: cool the water with ice cubes, drink from a sports cap or with a straw, add a flavour (lime, mint) or choose Hépar or Vichy water, soup, tea, etc.

Follow the dietary requirements given by the dietitian carefully: you will find these in the brochure “**Nutritional advice for bariatric surgery**”. You can also contact them by email or telephone.

Constipation is not common, but unpleasant. The following tips can help you:

- Movement stimulates your gut to move as well. This triggers intestinal function.
- Don't skip meals like breakfast. This also makes the intestines move and work. Eat things high in fibre, vegetables and soft fruit.
- If you feel the urge to go to the toilet, go immediately and take your time. Holding it in and not listening to your body can promote constipation. Try not to force it.
- In consultation with your doctor, a laxative may be considered for persistent symptoms e.g. Movicol, Laxido.

It is important that you contact us or go to the GP for proper follow-up if you experience any problems after the operation, such as fever, frequent vomiting, dehydration, lung problems, blood in the stools, wound infection, etc.

FAQ: What are possible complications during or shortly after the procedure?

Short-term complications occur within 30 days of surgery and are directly or indirectly related to the recent surgery. The most common major early complications are infection, bleeding, leakage/perforation, obstruction/stenosis, venous thromboembolism and myocardial infarction.

The general condition of the patient plays a role in the risk of such complications, for example the number and severity of other conditions.

Currently, approximately 2.5 to 5 percent of patients require re-admission within 30 days.

Source: KCE 2019 report

5

Follow-up post surgery

Three to six weeks post surgery

Most patients have recovered well by this point. Daily exercise should be on the agenda and you should pay adequate attention to healthy eating and your lifestyle.



BEWEGINGSDRIEHOEK VERBODEN TOEGEVOEGDE STOFFEN **GEZOND LEVEN**

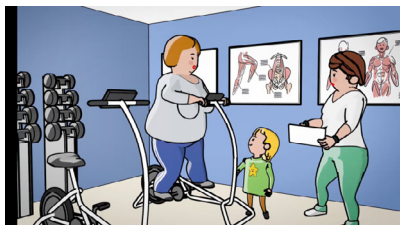


Six weeks after surgery, most patients have lost an average of 10 percent of their body weight.

At this stage, you will have a check-up appointment with the surgeon and dietitian to monitor the evolution in terms of healing, nutrition and fluid intake. Eating is going better and better, volumes will increase cautiously. The dietitian will calculate your necessary protein intake: this is important to cause no or as little muscle breakdown as possible during the slimming phase. You can find more information about this in the brochure “**Protein intake after bariatric surgery**”.

In order to prevent muscle mass loss, promote fat burning and prevent excess skin, we also ask you to start **sports activities** from four to six weeks after the procedure. For example, activities of 45 minutes – 3 x per week – heart rate 120-130 bpm is an excellent way to promote fat burning. Active walking, at least 10,000 steps a day, is also a good habit to develop.

The long-term success of the procedure is linked to physical activity and post-operative rehabilitation. Physiotherapy and exercise sessions are therefore strongly recommended: the obesity coordinator will tell you all about this. At AZ Delta, we also offer multidisciplinary follow-up through group therapy: ask for the “**Balance, multidisciplinary obesity programme**” information brochure.



When you can go back to work depends on the type of job you have (sedentary work versus heavy physical work). You will normally get three weeks of work leave, but this can vary between two and six weeks.

In the meantime, we ask you, as a preventative measure, to start taking a daily multivitamin (morning) and a calcium citrate supplement (afternoon or evening) and to continue doing this for life.

Do not experiment with this on your own; ask for advice if you experience problems. There are, of course, alternatives. The composition of these specialised products has been investigated in studies and has been adapted for patients following bariatric surgery.

FAQ: Why do I have to take vitamins (and then have my blood taken) after the procedure?

Vitamin and micronutritional deficiencies

One of the most common problems after bariatric surgery is a micronutrient deficiency (especially of iron (Fe), vitamin B12 and folic acid, and, less often, of copper, selenium and/or vitamin K). Some patients already have these deficits from before the surgery, through predisposition, menstruation, an unbalanced diet, etc. On average, this problem occurs more frequently after a gastric bypass than after a gastric sleeve operation, because with the gastric bypass part of the small intestine is bypassed. A high dose multivitamin can avoid this undesirable effect.

Effects on the bones

One of the possible and most known long-term effects of severe vitamin D deficiency is effects on bone (risk of osteopenia, osteoporosis). Many Belgians are struggling with this. The risk of vitamin D hypovitaminosis and insufficient calcium (Ca) absorption is higher after a gastric bypass, but both problems are also common after a gastric sleeve operation (especially hypovitaminosis D). Menopausal or post-menopausal women are particularly at risk: in this case, a DEXA scan is recommended every year during the first two years, then once every two to five years. Thus, intake of calcium citrate may help protect your bones and teeth and may help prevent kidney stones.

Source: KCE 2019 report

Three months post surgery

Your body will change a lot and people around you will start to notice that you are losing weight. This is great! On average, after three months, people are 15 to 20 percent less heavy than they were at their highest weight. We don't want the weight loss to be any faster than this as that could result in too much muscle mass disappearing.

An appointment with the surgeon and dietitian is planned during this period to analyse the weight curve and your well-being.

After bariatric surgery, most patients eventually feel more energetic, but others have symptoms of fatigue, especially during the first period of rapid and significant weight loss after surgery, a period characterised by a "catabolic" condition. Patients should therefore respect dietary instructions and exercise sufficiently to limit excessive loss of muscle mass and strength. Taking recommended vitamin and micronutrient supplements is also important, as is avoiding fast sugars (risk of hypoglycaemia), as this can of course also cause fatigue.

You can reduce the gastric protectors from three months after the procedure if you no longer have pain and are eating without problem. You may reduce from 40 mg to 20 mg and then try to stop. Some patients need gastric protection for six months or longer: ask your doctor for advice in this case.

Do you sporadically take Nurofen, Brufen, etc.? This is very stressful for the stomach (so preferably avoid). In this case you should also take a gastric protector. If you smoke, take blood thinners or other stomach-straining medications, you will need to take a 20 mg stomach protector (or higher if necessary) for life. This is to prevent the formation of stomach ulcers. Of course, we prefer that you permanently stop smoking.

Between three to six months after an operation, some women suffer from (temporary) hair loss. A keratin booster/zinc supplement may be added, e.g. Alline. Ask your doctor or pharmacist for advice.

If you suffer from diabetes, thyroid disease or other underlying conditions, the general practitioner (or endocrinologist) can provide a targeted follow-up for this.

Six months post surgery

Many patients are now really looking great: the weight loss is 20 to 25 percent, you feel fitter, your eating pattern is getting better and better, ailments due to obesity disappear, etc. Visit your GP to adjust your medication if necessary, and for a comprehensive **blood analysis** one week before the check-up appointment with the surgeon in charge of your care:

- routine blood samples
- iron serum, TIBC, ferritin
- folic acid
- Vit B12 (cobalamin)
- total Ca⁺⁺, PTH, Vit D
- liver set
- fasting triglycerides, cholesterol
- fasting glucose
- total proteins, albumin
- zinc
- thyroid tests and HbA1c optional
- Vit A, Vit B1 (thiamine), selenium and copper optional

An appointment with the surgeon and dietitian is recommended during this period to analyse the weight curve and your well-being, as well as to discuss the results of the blood tests. Weight loss should preferably not exceed 35 percent at this time. If it does, please contact us.

Have you ever experienced a “dumping”? It’s a kind of warning, with discomfort and heart palpitations, that can be provoked when you eat “bad” foods.

You can avoid this by limiting fast sugars (in other words, stay clear of them). Choose slow-acting sugars: fruit or wholegrain crackers. Eat slowly, chew your food properly, don't drink with meals, eat enough salts/proteins... These are all tips that can help prevent these problems.

Some patients have had problematic eating behaviours or even eating disorders from an early age. Examples include grazing, eating high-calorie foods and binge eating. Following up with a specialist dietician (and possibly a psychologist) is certainly useful if you need help to avoid falling into the same traps as before, e.g. preference for mini-portions instead of grazing, avoiding stress eating by learning to deal with your negative emotions... On the other hand, it's important that you don't become obsessed with food, e.g. food avoidance, being too preoccupied with dietary recommendations. We therefore mainly focus on **normalising food**: the meal as a positive experience, in a social context.

FAQ: What is dumping?

Early dumping

Dumping is characterised by complaints such as abdominal pain, diarrhoea, bloating, nausea and symptoms such as flushing, palpitations, sweating, dizziness and sometimes fainting. It is caused by rapid gastric emptying and exposure of the small intestine to nutrients, especially “fast sugars”. Early dumping occurs within the first hour after meals and often within fifteen minutes. On average, 10 to 15 percent of patients report symptoms of early dumping, usually after a gastric bypass, but also regularly after a gastric sleeve.

Late dumping

This occurs between one and three hours after meals when foods high in fast carbohydrates are eaten. Symptoms include those of hypoglycaemia (or sugar deficiency): sweating, palpitations, hunger, weakness, confusion, shaking and possibly fainting. It is reported more frequently after a gastric bypass than after a gastric sleeve, but it is less common than early dumping.

Source: KCE 2019 report

Furthermore, gallstones (often asymptomatic) are more common in obese patients. In the first period after bariatric surgery, in which there is a rapid, significant weight reduction, the risk of gallstone formation also temporarily increases. Around this period an **ultrasound** may be useful to exclude gallstone formation. Ask your GP or surgeon for advice.

Twelve months post surgery

After, on average, 12 months, you will reach the **final weight**: between 25 to 35 percent weight reduction compared to your highest weight.

The more you exercise during the first 6 to 12 months, the more easily this weight loss is achieved, the more limited the excess skin (e.g. arms), and the more durable in the long term this weight loss is (less chance of weight gain due to a good basic metabolic rate (BMR)).

Visit your GP to adjust your medication if necessary, and for a comprehensive **blood analysis** one week before the appointment with your surgeon. An appointment with the dietitian is also recommended.

9

General follow-up and advice

Your **well-being** must be monitored properly, even after a bariatric operation, because mental illness and problems are more common in people with obesity than in the general population. Obese people often have low self-esteem. The psychologist will give you all the contact details before the procedure, so if you feel “the ground sinking from under your feet”, please be sure to contact us or another trusted person in your area.

FAQ: Over the moon about losing weight?

Observational studies show that many patients experience an improvement in quality of life (honeymoon period) during the first to second year after a “successful” procedure. Their weight loss often improves their well-being and reduces any feelings of depression. However, this beneficial mental effect may subsequently diminish, especially in patients who previously had mental health problems.

Previous or pre-existing mental illness before surgery can have a negative impact. Disappointing weight loss (and/or unrealistic expectations) can in turn exacerbate or re-ignite mental health problems.

Attention to mental health therefore remains very important.

Source: KCE 2019 report

Some patients have very elastic skin and do not report **excess skin** one year after the procedure, but some report the development of excessive skin folds with possible impact on body image, or softening, irritation and skin infection. In this case, skin repair surgery may be necessary or desirable. Ask your doctor for advice on whether you are eligible for reimbursement.

In the meantime, you have occasionally consumed **alcohol**. This is allowed, on occasions, but be mindful of the fact that alcohol is high-calorie (“fattening”) and addictive.

FAQ: Alcohol addiction and gastric bypass

Research shows that, especially from the second year after a gastric bypass, there is a greater risk of alcohol abuse and not (or much less) after a gastric sleeve.

The risk appears to be higher in patients with a history of addiction before surgery, in men, younger patients, smokers, regular alcohol use, substance use, limited social network, etc.

In addition, sensitivity to alcohol increases after a gastric bypass. More so in women than in men: alcohol is absorbed more quickly and broken down more slowly by the body.

Symptoms of alcohol intoxication may also change after a gastric bypass. This has implications for driving, alcohol testing, operating machines or performing more complex tasks.

It is therefore recommended that candidates for bariatric surgery be screened beforehand for substance abuse or a history of substance abuse and informed of any increased risk. This is explored in detail with the psychologist and discussed with you. Be honest in this: we are not judging, but we want to make people healthier in the long term and not less healthier. This may be a reason to choose a gastric sleeve rather than a gastric bypass.

Source: KCE 2019 report

Hoping to get **pregnant**?

Young women with obesity are on average less fertile than women in general. Weight loss (after bariatric surgery) improves their metabolic and hormonal profile, thus increasing fertility.

A healthier weight is also positive in other areas: it reduces the risk of gestational diabetes, an overweight baby, high blood pressure, pregnancy poisoning and other problems during pregnancy or delivery.

Pregnancy should be delayed until 12-18-(24) months after bariatric surgery, until weight loss has stabilised, in order to not induce deficiencies in the baby. The “pill” is not the preferred contraceptive during this period. Instead, we recommend non-oral forms, e.g. the coil, NuvaRing, condoms. Discuss the options with your GP or gynaecologist. During pregnancy and breastfeeding, it is important that these women take food supplements correctly (e.g. Barinutrics prenatal). Regular blood tests are necessary.

If there are inconveniences with eating, be sure to talk to your treating physician.

FAQ: What is an intestinal hernia, or an internal herniation?

Since the anatomy of the abdominal cavity changes, the small intestine may become stuck in an internal opening caused by the RYGB procedure. This can cause acute intestinal obstruction, which requires urgent medical treatment (usually surgical).

It is estimated that approximately between 9 and 14 percent of patients are affected.

Source: KCE 2019 report

BUT: For a number of years, there has been an international consensus to close this opening in the peritoneum during standard gastric bypass surgery, which greatly reduces the risk of intestinal hernia. However, the risk is never zero, because this opening can come loose again due to the weight loss. In any case, our goal is to keep long-term complications as low as possible.

10 Annual check-ups

Your body is completely stabilised, but sometimes the fear of gaining weight remains lurking in the background. Stay healthy, eat a varied diet, and try to make sure you are doing enough exercise.

Follow up again 18 months after the procedure, and then annually: to check or adjust your medication, perform an extensive blood analysis and check the vitamins, evolution of the weight (stabilisation or slight fluctuations), your well-being, etc. Make this an annual habit.

11 More information?

Read more at www.ObesitascentrumWestvlaanderen.be

Nursing prescription

Patient's surname and first name:

.....
.....
.....
.....
.....

Reason: post-gastric bypass/sleeve gastrectomy condition

Please administer the following care:

- Aseptic wound care as required
- Clexane 60 mg 1 per day / Fraxiparine 0.6 cc 1 per day for 10 days

Frequency: 1 per day

Duration: 10 days

Date: / / 20.....

Prescriber stamp:



Read all about it at www.ObesityCentrumWestvlaanderen.be

Physiotherapy prescription

Patient's surname and first name:

.....
.....
.....
.....
.....

Reason:

- Post-operative condition:
gastric bypass (N241846)/sleeve gastrectomy (N241780)
- Maintain lean body mass – Prevent muscle loss
- Lifestyle adjustment

Please administer the following care: from 4-6 weeks post op

- Core stability training, back pain exercises
- Strength training, cardio training
- ExerciseOnTheGo coaching

Frequency: 2x/week

Duration: 18 occurrences

Date: / / 20.....

Prescriber stamp:



Read all about it at www.ObesityCentrumWestvlaanderen.be

Pre-Diet Reimbursement Request

For the attention of hospitalisation insurer.

Patient's surname and first name:

.....
.....
.....
.....

As part of optimal pre- and after-care for a planned bariatric procedure, a very low-calorie ketogenic diet enriched with vitamins, minerals and high-quality proteins is recommended in our hospital as a pre-operative diet. This diet is recommended for at least one to two weeks.

Scientific studies show that this type of 2-week diet leads to at least 5% weight loss and a decrease in liver volume between 5-20% (Caprio et al. 2019).

This results in greater post-operative weight loss (Kadeli et al. 2012), a shorter duration of the procedure and shorter hospitalisation duration (Still et al. 2020, Giordano et al. 2014), reduced risk of complications (Weimann et al. 2017) and less loss of muscle mass post-operative, better wound healing, and lower mortality (Sun et al. 2020).

In addition, international guidelines indicate that postoperative protein intake must be at least 60-90 g per day, with preferably 1 to 1.2 g protein/kg ideal body weight. More than 85% of patients ingest less than 60 g of protein per day postoperatively (Gesquiere et al. 2014). Therefore, it is recommended that the normal diet is sufficiently enriched with protein supplements after surgery.

These pre- and post-operative protein supplements therefore serve to optimise the concerns surrounding bariatric surgery and limit post-operative problems and costs in the long term. We would therefore like to ask you to consider the reimbursement of such products within your hospitalisation insurance (see patient invoice, to be added in attachment).

Date: / / 20.....

Prescriber stamp:



Notes

A series of 20 horizontal dotted lines for taking notes.

A series of 25 horizontal dotted lines for writing.

20 horizontal dotted lines for writing.

Contact

Obesity Coordinator

Bert Verbeke

t +32 (0)51 237 406

e obesitascentrum@azdelta.be

AZ DELTA ROESELARE

Surgery Secretary's Office

t +32 (0)51 237 109

e secr.chirurgie.rumbek@azdelta.be

Endocrinology Secretary's Office

t +32 (0)51 237 430

e secr.endocrino@azdelta.be

Dietitian Kristel Behey

t +32 (0)51 237 546

e kristel.behey@azdelta.be

Dietitian Ann Dejager

t +32 (0)51 237 545

e ann.dejager@azdelta.be

Psychologist Horanka Uyttenhove

t +32 (0)51 238 182

e horanka.uyttenhove@azdelta.be

Physiotherapy Secretary's Office

t +32 (0)51 236 145

e secr.fysio@azdelta.be

AZ DELTA MENEN

Surgery Secretary's Office

t +32 (0)56 522 243

e secr.chirurgie.menen@azdelta.be

Endocrinology Secretary's Office

t +32 (0)56 522 243

e secr.endocrino@azdelta.be

Dietitian Marianne Castelee

t +32 (0)56 522 288

e marianne.castelee@azdelta.be

Dietician Aline Lamblin

t +32 (0)56 522 289

e aline.lamblin@azdelta.be

Psychologist Sofie Naert

t +32 (0)56 522 197

e sofie.naert@azdelta.be

Physiotherapy Secretary's Office

t +32 (0)56 522 685

e secr.fysio.menen@azdelta.be

AZ DELTA TORHOUT

Surgery Secretary's Office

t +32 (0)50 232 424

e secr.chirurgie.torhout@azdelta.be

Endocrinology Secretary's Office

t +32 (0)50 232 401

e secr.inwendige.torhout@azdelta.be

Dietitian Rita Wauman

t +32 (0)50 232 739

e rita.wauman@azdelta.be

Dietitian Ann-Sophie Vuylsteke

t +32 (0)50 232 630

e ann-sophie.vuylsteke@azdelta.be

Psychologist Jasmijn De Bouvere

t +32 (0)50 232 329

e jasmijn.debouvere@azdelta.be

Physiotherapy Secretary's Office

t +32 (0)50 232 492

e secr.fysio.torhout@azdelta.be

Surgeons

Dr Isabelle Debergh

Dr Hans De Loof

Dr Bart Smet

Dr Philip Vanden Borre