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Bariatric Surgery

What's Inside

This booklet is about bariatric surgery. After you read it, talk with your bariatric care team to decide whether this surgery is right for you.

- Bariatric surgery changes your digestive system in ways that may help you lose weight. The surgery is for people who are very overweight and have serious health problems because of their weight.
- Bariatric surgery is major surgery that is not for everyone who weighs too much. If it is not right for you, you can take other steps to lose weight and improve your health.
- Bariatric surgery is not a quick fix. Weight loss happens over time. And you must make major changes to your diet, physical activity and other habits to keep off the weight you lose.
- Before you can have surgery, you go through an evaluation process that includes medical and mental health exams. You also have a “to-do” list to help you prepare. Depending on your needs, this process may be as short as three months but can take up to a year.
- You must be able to pay for all costs related to the surgery. **Contact your health insurance company early** to learn what your policy does and does not pay for.
- Talk with your bariatric care team about each kind of bariatric surgery and what you must do to prepare. Ask what typically happens when you are in the hospital and how to care for yourself at home. Talk about the benefits, side effects, risks and possible complications of the surgery.
- In large part, the success of the surgery is up to you. Be sure you understand the lifestyle changes you need to make. Be sure you are willing to make those changes for the rest of your life.

If you have questions after you read this information, talk with your surgeon or another member of your bariatric care team.

Some Facts About Bariatric Surgery

Reasons for the surgery

Bariatric surgery may help you lose weight and improve your overall health. The surgery is not without risks. But weight loss after bariatric surgery can help to prevent or improve health problems linked to extra weight, such as:

- Type 2 diabetes.
- High blood pressure, called hypertension.
- Pauses in breathing during sleep, called obstructive sleep apnea.
- Heart disease.
- Asthma.
- Joint problems.
- High cholesterol.
- Gastroesophageal reflux disease, or GERD.

Take action

Call the bariatric surgery program coordinator to talk about options for weight loss.

Thinking about surgery

Bariatric surgery, also called weight loss surgery, changes the structure of your digestive system. “Bariatric” refers to the causes, prevention and treatment of obesity. Obesity is extra weight that may result in health problems. You may see or hear the term “morbid obesity.” This refers to the health problems that can result from being very overweight.

Some bariatric surgeries make your stomach smaller. Others change the way food travels through your small intestine. Some bariatric surgeries do both. The changes to your digestive system may help you lose weight.

Weight loss surgery is major surgery. As you look into this kind of surgery, keep these things in mind:

- Weight loss surgery is not a quick fix for obesity. After surgery, it takes time and effort to continue the healthy habits that can help you lose weight and keep it off. This includes daily physical activity and a diet plan that meets your needs.
- Weight loss surgery does not remove fat from your body.
- Some people lose weight after surgery but then gain it back because they are not able to follow the recommended changes to diet and activity.
- Very few people who have weight loss surgery reach their ideal weight. Surgery is seen as a success if you lose half your **extra** weight and keep it off. For example, if you have 200 pounds of extra weight, you may lose 100 pounds and keep them off long term.

You may want to think of having a box of tools that can help you lose weight and make necessary lifestyle changes after bariatric surgery. See Figure 1. Usually, you use more than one tool to finish a project. The same is true for managing your weight. You can use a group of tools to lose weight and keep it off. Bariatric surgery is only one tool in the box. Even if you don't use that tool, there are others that can help you get the job done.

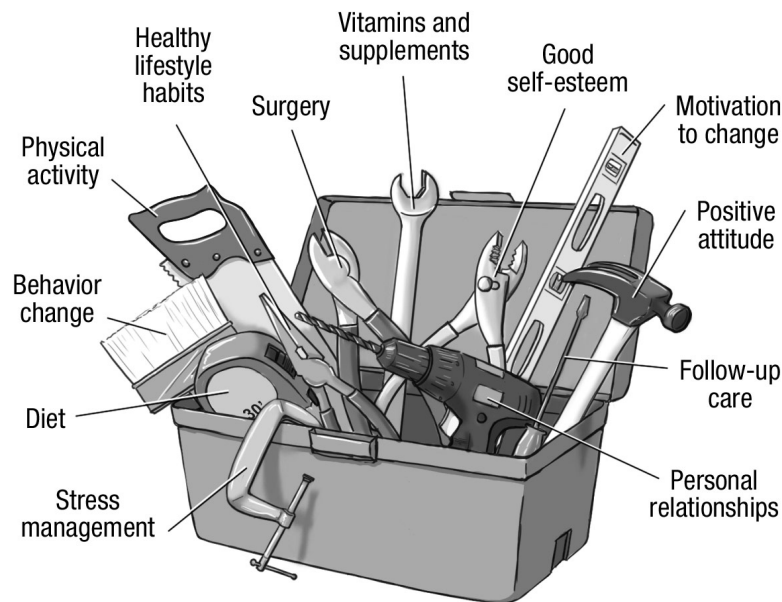


Figure 1. Tools for success after bariatric surgery

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Who May Be Able to Have Bariatric Surgery

Bariatric surgery is for people who are very overweight. Usually, they also have serious health problems due to their weight or are at risk to develop problems. To have this surgery, you must have at least a certain body mass index, or BMI, or at least a certain BMI with weight-related health problems. BMI is based on height and weight. Talk with your care team about your BMI and any weight-related health problems.

There are many ways to measure success after weight loss surgery. One of the measures of success is known as percent excess weight loss. Percent excess weight loss is how much of your extra weight you've lost. Most people can expect to lose at least 50 percent of their excess body weight after weight loss surgery.

Excess weight loss can be calculated as follows: (Pre-surgery BMI minus your post-surgery BMI) divided by (Pre-surgery BMI minus 25)

Here is an example using the BMI chart on the next page:

Height: 5'5" or 65 inches

Pre-surgery weight: 294 pounds

Pre-surgery BMI: 49 kg/meters squared

Post-surgery weight: 174 pounds

Post-surgery BMI: 29 kg/meters squared

Excess weight loss = $(49 - 29)/(49 - 25) = 83$ percent excess weight loss

In this example, the patient lost 83 percent of his or her excess body weight, which would be considered a surgical success. Discuss appropriate weight loss goals for you with your health care provider.

Your health care team looks at many things to decide whether surgery may be a choice for you. The team looks at your:

- Overall health history.
- Current health problems or risk for problems related to your weight.
- Past efforts to lose weight.
- Willingness and ability to make long-term changes to your diet, physical activity and other habits.
- Ability to cope with the effects of weight loss.
- Support from family and friends to help you reach your weight loss goals.
- Understanding of the possible risks and complications of surgery.

If you are not a candidate for bariatric surgery or you choose not to have it, talk with your bariatric care team. There are other ways to lose weight and improve your health.

| | | Height | | | | | | | | | | | | | | | | | | | | |
|-----------------------|-----|--------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|------|------|------|------|------|------|------|
| | | 5'0" | 5'1" | 5'2" | 5'3" | 5'4" | 5'5" | 5'6" | 5'7" | 5'8" | 5'9" | 5'10" | 5'11" | 6'0" | 6'1" | 6'2" | 6'3" | 6'4" | 6'5" | 6'6" | 6'7" | 6'8" |
| Body Mass Index (BMI) | | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| | | 25 | 128 | 132 | 137 | 141 | 146 | 150 | 155 | 160 | 164 | 169 | 174 | 179 | 184 | 190 | 195 | 200 | 205 | 211 | 216 | 222 |
| 26 | 133 | 138 | 142 | 147 | 151 | 156 | 161 | 166 | 171 | 176 | 181 | 186 | 192 | 197 | 203 | 208 | 214 | 219 | 225 | 231 | 237 | |
| 27 | 138 | 143 | 148 | 152 | 157 | 162 | 167 | 172 | 178 | 183 | 188 | 194 | 199 | 205 | 210 | 216 | 222 | 228 | 234 | 240 | 246 | |
| 28 | 143 | 148 | 153 | 158 | 163 | 168 | 173 | 179 | 184 | 190 | 195 | 201 | 206 | 212 | 218 | 224 | 230 | 236 | 242 | 249 | 255 | |
| 29 | 149 | 153 | 159 | 164 | 169 | 174 | 180 | 185 | 191 | 196 | 202 | 208 | 214 | 220 | 226 | 232 | 238 | 245 | 251 | 257 | 264 | |
| 30 | 154 | 159 | 164 | 169 | 175 | 180 | 186 | 192 | 197 | 203 | 209 | 215 | 221 | 227 | 234 | 240 | 246 | 253 | 260 | 266 | 273 | |
| 31 | 159 | 164 | 170 | 175 | 181 | 186 | 192 | 198 | 204 | 210 | 216 | 222 | 229 | 235 | 241 | 248 | 255 | 261 | 268 | 275 | 282 | |
| 32 | 164 | 169 | 175 | 181 | 186 | 192 | 198 | 204 | 210 | 217 | 223 | 229 | 236 | 243 | 249 | 256 | 263 | 270 | 277 | 284 | 291 | |
| 33 | 169 | 175 | 180 | 186 | 192 | 198 | 204 | 211 | 217 | 224 | 230 | 237 | 244 | 251 | 258 | 265 | 272 | 279 | 286 | 293 | 300 | |
| 34 | 174 | 180 | 186 | 192 | 198 | 204 | 211 | 217 | 224 | 230 | 237 | 244 | 251 | 258 | 265 | 272 | 279 | 287 | 294 | 302 | 310 | |
| 35 | 179 | 185 | 191 | 198 | 204 | 210 | 217 | 223 | 230 | 237 | 244 | 251 | 258 | 265 | 273 | 280 | 288 | 295 | 303 | 311 | 319 | |
| 36 | 184 | 191 | 197 | 203 | 210 | 216 | 223 | 230 | 237 | 244 | 251 | 258 | 265 | 273 | 280 | 288 | 296 | 304 | 312 | 320 | 328 | |
| 37 | 189 | 196 | 202 | 209 | 216 | 222 | 229 | 236 | 243 | 251 | 258 | 265 | 273 | 280 | 288 | 296 | 304 | 312 | 320 | 328 | 337 | |
| 38 | 195 | 201 | 208 | 215 | 221 | 228 | 235 | 243 | 250 | 257 | 265 | 272 | 280 | 288 | 296 | 304 | 312 | 320 | 329 | 337 | 346 | |
| 39 | 200 | 206 | 213 | 220 | 227 | 234 | 242 | 249 | 257 | 264 | 272 | 280 | 288 | 296 | 304 | 312 | 320 | 329 | 338 | 346 | 355 | |
| 40 | 205 | 212 | 219 | 226 | 233 | 240 | 248 | 255 | 263 | 271 | 279 | 287 | 295 | 303 | 312 | 320 | 329 | 337 | 346 | 355 | 364 | |
| 41 | 210 | 217 | 224 | 231 | 239 | 246 | 254 | 262 | 270 | 278 | 286 | 294 | 302 | 311 | 319 | 328 | 337 | 346 | 355 | 364 | 373 | |
| 42 | 215 | 222 | 230 | 237 | 245 | 252 | 260 | 268 | 276 | 284 | 293 | 301 | 310 | 318 | 327 | 336 | 345 | 354 | 363 | 373 | 382 | |
| 43 | 220 | 228 | 235 | 243 | 251 | 258 | 266 | 275 | 283 | 291 | 300 | 308 | 317 | 326 | 335 | 344 | 353 | 363 | 372 | 382 | 391 | |
| 44 | 225 | 233 | 241 | 248 | 256 | 264 | 273 | 281 | 289 | 298 | 307 | 316 | 324 | 334 | 343 | 352 | 362 | 371 | 381 | 391 | 401 | |
| 45 | 230 | 238 | 246 | 254 | 262 | 270 | 279 | 287 | 296 | 305 | 314 | 323 | 332 | 341 | 351 | 360 | 370 | 380 | 389 | 399 | 410 | |
| 46 | 236 | 243 | 252 | 260 | 268 | 276 | 285 | 294 | 303 | 312 | 321 | 330 | 339 | 349 | 358 | 368 | 378 | 388 | 398 | 408 | 419 | |
| 47 | 241 | 249 | 257 | 265 | 274 | 282 | 291 | 300 | 309 | 318 | 328 | 337 | 347 | 356 | 366 | 376 | 386 | 396 | 407 | 417 | 428 | |
| 48 | 246 | 254 | 262 | 271 | 280 | 288 | 297 | 307 | 316 | 325 | 335 | 344 | 354 | 364 | 374 | 384 | 394 | 405 | 415 | 426 | 437 | |
| 49 | 251 | 259 | 268 | 277 | 285 | 294 | 304 | 313 | 322 | 332 | 342 | 351 | 361 | 371 | 382 | 392 | 403 | 413 | 424 | 435 | 446 | |
| 50 | 256 | 265 | 273 | 282 | 291 | 300 | 310 | 319 | 329 | 339 | 349 | 359 | 369 | 379 | 389 | 400 | 411 | 422 | 433 | 444 | 455 | |
| 51 | 261 | 270 | 279 | 288 | 297 | 307 | 316 | 326 | 335 | 345 | 355 | 366 | 376 | 387 | 397 | 408 | 419 | 430 | 441 | 453 | 464 | |
| 52 | 266 | 275 | 284 | 294 | 303 | 313 | 322 | 332 | 342 | 352 | 362 | 373 | 383 | 394 | 405 | 416 | 427 | 439 | 450 | 462 | 473 | |
| 53 | 271 | 281 | 290 | 299 | 309 | 319 | 328 | 338 | 349 | 359 | 369 | 380 | 391 | 402 | 413 | 424 | 435 | 447 | 459 | 471 | 483 | |
| 54 | 277 | 286 | 295 | 305 | 315 | 325 | 335 | 345 | 355 | 366 | 376 | 387 | 398 | 409 | 421 | 432 | 444 | 455 | 467 | 479 | 492 | |
| 55 | 282 | 291 | 301 | 311 | 320 | 331 | 341 | 351 | 362 | 372 | 383 | 394 | 406 | 417 | 428 | 440 | 452 | 464 | 476 | 488 | 501 | |
| 56 | 287 | 296 | 306 | 316 | 326 | 337 | 347 | 358 | 368 | 379 | 390 | 402 | 413 | 425 | 436 | 448 | 460 | 472 | 485 | 497 | 510 | |
| 57 | 292 | 302 | 312 | 322 | 332 | 343 | 353 | 364 | 375 | 386 | 397 | 409 | 420 | 432 | 444 | 456 | 468 | 481 | 493 | 506 | 519 | |
| 58 | 297 | 307 | 317 | 327 | 338 | 349 | 359 | 370 | 381 | 393 | 404 | 416 | 428 | 440 | 452 | 464 | 477 | 489 | 502 | 515 | 528 | |
| 59 | 302 | 312 | 323 | 333 | 344 | 355 | 366 | 377 | 388 | 400 | 411 | 423 | 435 | 447 | 460 | 472 | 485 | 498 | 511 | 524 | 537 | |
| 60 | 307 | 318 | 328 | 339 | 350 | 361 | 372 | 383 | 395 | 406 | 418 | 430 | 442 | 455 | 467 | 480 | 493 | 506 | 519 | 533 | 546 | |
| 61 | 312 | 323 | 334 | 344 | 355 | 367 | 378 | 390 | 401 | 413 | 425 | 437 | 450 | 462 | 475 | 488 | 501 | 514 | 528 | 542 | 555 | |
| 62 | 317 | 328 | 339 | 350 | 361 | 373 | 384 | 396 | 408 | 420 | 432 | 445 | 457 | 470 | 483 | 496 | 509 | 523 | 537 | 550 | 564 | |
| 63 | 323 | 333 | 344 | 356 | 367 | 379 | 390 | 402 | 414 | 427 | 439 | 452 | 465 | 478 | 491 | 504 | 518 | 531 | 545 | 559 | 574 | |
| 64 | 328 | 339 | 350 | 361 | 373 | 385 | 397 | 409 | 421 | 433 | 446 | 459 | 472 | 485 | 499 | 512 | 526 | 540 | 554 | 568 | 583 | |
| 65 | 333 | 344 | 355 | 367 | 379 | 391 | 403 | 415 | 428 | 440 | 453 | 466 | 479 | 493 | 506 | 520 | 534 | 548 | 563 | 577 | 592 | |
| 66 | 338 | 349 | 361 | 373 | 385 | 397 | 409 | 421 | 434 | 447 | 460 | 473 | 487 | 500 | 514 | 528 | 542 | 557 | 571 | 586 | 601 | |
| 67 | 343 | 355 | 366 | 378 | 390 | 403 | 415 | 428 | 441 | 454 | 467 | 480 | 494 | 508 | 522 | 536 | 550 | 565 | 580 | 595 | 610 | |
| 68 | 348 | 360 | 372 | 384 | 396 | 409 | 421 | 434 | 447 | 461 | 474 | 488 | 501 | 515 | 530 | 544 | 559 | 574 | 588 | 604 | 619 | |
| 69 | 353 | 365 | 377 | 390 | 402 | 415 | 428 | 441 | 454 | 467 | 481 | 495 | 509 | 523 | 537 | 552 | 567 | 582 | 597 | 613 | 628 | |
| 70 | 358 | 371 | 383 | 395 | 408 | 421 | 434 | 447 | 460 | 474 | 488 | 502 | 516 | 531 | 545 | 560 | 575 | 590 | 606 | 621 | 637 | |
| 71 | 364 | 376 | 388 | 401 | 414 | 427 | 440 | 453 | 467 | 481 | 495 | 509 | 524 | 538 | 553 | 568 | 583 | 599 | 614 | 630 | 646 | |
| 72 | 369 | 381 | 394 | 406 | 420 | 433 | 446 | 460 | 474 | 488 | 502 | 516 | 531 | 546 | 561 | 576 | 592 | 607 | 623 | 639 | 655 | |
| 73 | 374 | 386 | 399 | 412 | 425 | 439 | 452 | 466 | 480 | 494 | 509 | 523 | 538 | 553 | 569 | 584 | 600 | 616 | 632 | 648 | 665 | |
| 74 | 379 | 392 | 405 | 418 | 431 | 445 | 459 | 473 | 487 | 501 | 516 | 531 | 546 | 561 | 576 | 592 | 608 | 624 | 640 | 657 | 674 | |
| 75 | 384 | 397 | 410 | 423 | 437 | 451 | 465 | 479 | 493 | 508 | 523 | 538 | 553 | 569 | 584 | 600 | 616 | 633 | 649 | 666 | 683 | |

Paying for Bariatric Surgery

Weight loss surgery is costly. You must have insurance or other ways to pay for the surgery. Health insurance may not cover all costs related to this surgery. It may not cover weight loss surgery at

all. You will need to pay any costs not paid for by insurance.

If you are interested in weight loss surgery, contact your health insurance company right away to learn about your coverage. The evaluation and preparation for weight loss surgery can take months.

When it is time to set up the surgery, your insurance company will be contacted to be sure it will pay for the recommended surgery. By that time, though, you may have spent a lot of money to prepare for the surgery. It's in your best interest to contact your insurance company right away to learn about your coverage.

Take action

When you contact your insurance company, ask these questions. Be sure to write down the answers.

1. Does my policy cover weight loss surgery?
2. Are there limits or exclusions in my policy for this kind of surgery?
3. What specific surgical procedures does my policy cover? What procedures are not covered?
4. Does my policy cover all treatments, exams, tests and appointments before and after surgery?
5. Will I have any co-insurance, deductibles or co-pays?
6. Are there any limits, exclusions or deductibles depending where I have my surgery?
7. What must I do to have coverage for this surgery? For example, do you need proof of my past attempts to lose weight? If so, for how long must I have tried to lose weight? Do you need proof that I completed a supervised weight loss program?
8. Does my policy cover related services before and after the surgery, such as nutrition counseling?
9. Does my policy cover surgery to take away extra skin after weight loss?
10. Does my policy have a maximum coverage amount? For example, is there a certain amount that the insurance company will pay for this surgery and no more?

The Evaluation and Preparation Process

Before you can have weight loss surgery, you will have a careful evaluation to decide whether the surgery is right for you. You meet with a team of medical professionals who check your physical and mental health. You may have a number of tests to find out more about your overall health.

Bariatric care team members talk with you about issues that are important for weight control. They point out concerns that you need to work on before surgery. They check for conditions that might increase your risk of complications during or after surgery or keep you from long-term weight loss.

Before you have surgery, it is important to understand what is involved and to think about how the surgery may affect your life. The evaluation period gives you time to do this.

Your bariatric care team

Your bariatric care team may include these people:

- **Endocrinology professionals**, who have special training in nutrition. They may include physicians called endocrinologists, nurse practitioners and physician assistants. They evaluate you before surgery and help with your follow-up care.
- **Bariatric surgery program coordinator or registered nurse**, who helps guide you through the process and answers your questions.
- **Dietitian**, who gives you dietary changes to make before and after surgery and talks with you about how to make these changes part of your daily life.
- **Psychiatrist or psychologist**, who helps you identify and manage mental health issues and behaviors that can prevent you from losing weight and keeping it off. This person also helps you cope with the emotional and relationship issues that can happen with weight loss.
- **Surgeon**, who does the weight loss surgery.
- **Other medical specialists**, who may include a sleep disorder professional if you have sleep apnea or a cardiologist if you have heart disease.

What you need to do

If you and your health care team decide weight loss surgery may be a choice for you, you may have a list of things to do that help you prepare. This “to-do” list may ask you to:

- Address health problems such as high blood pressure or sleep apnea.
- Stop smoking or using products that contain tobacco.
- Finish a program where you learn and use skills for lasting weight loss.
- Take part in individual or group counseling for conditions such as anxiety or depression.
- Change factors such as unhealthy eating patterns, lack of physical activity or poor sleep habits that make you less likely to lose weight and keep it off.

If you have a current problem with alcohol or drug use or are at risk for having a problem with either, you may be required to remain abstinent for a minimum amount of time before surgery.

It can take months to finish everything on your list. At that time, your bariatric care team reviews your progress. They check whether you are practicing healthy habits and doing the other things to help make your surgery a success.

To decide whether you are ready for surgery, your team looks at whether you have:

- Kept your scheduled appointments.
- Made needed changes in your diet and physical activity.
- Not gained weight.
- Stopped smoking or using tobacco products.
- Followed treatment plans for your health conditions.

If you have done the items on your list and you and the bariatric care team feel that surgery may be a choice for you, you then meet with a surgery team member to talk about the kind of weight loss surgery that is right for you.

If you and your surgeon decide to go ahead, your insurance company will be contacted to show the medical need for the recommended surgery. This does not guarantee that your insurance company will pay for the surgery.

Notice from your insurance company that it will pay for surgery must be received. This is called prior authorization or pre-approval. Then your surgery can be set up. Once this is done, you meet with your surgeon to talk about the surgery you will have, including risks and complications.

It may be several weeks before you actually have the surgery. You must keep up your healthy habits during this time. For example, if you gain weight or smoke, your surgery will almost certainly be delayed or cancelled.

Behavior Modification Program

Some people who want to have bariatric surgery take part in a behavior modification program. This program helps you change behaviors that can keep you from losing weight successfully. It usually takes about three months to finish a behavior modification program, but it can take longer.

A behavior modification program offers you tools to make the changes you need for successful weight loss. You look at the habits that have kept you from losing weight and learn about ways to replace those habits with healthy behaviors. You learn how to maintain healthy behaviors long term. During the program, you also have a chance to meet with other people who share your weight loss goals.

Counseling

You may have emotional or mental health conditions that should be addressed before surgery. For example, if you have depression or anxiety that is not treated, you may take longer and find it harder to recover from surgery. Or you may return to your past eating habits.

As part of the evaluation process, you meet with a psychologist and sometimes with a psychiatrist. Together, you talk about factors that might affect the results of surgery and your long-term weight loss. You may fill out some surveys that ask you questions. The psychologist or psychiatrist shares the results of any survey with you and your physicians.

Your bariatric care team then lets you know what kind of counseling, if any, you should have. You are more likely to keep off weight if you have professional support and guidance for changes you must make. For example, your team may suggest that you have behavioral therapy before and after surgery. This kind of therapy can help you identify and change how you react to stressful or troubling events. Your surgery may be delayed while you address mental health issues.

Your Digestive System

Knowing about how your digestive system works can help you understand what happens during bariatric surgery and how it may help you lose weight. Figure 2 shows the normal digestive system.

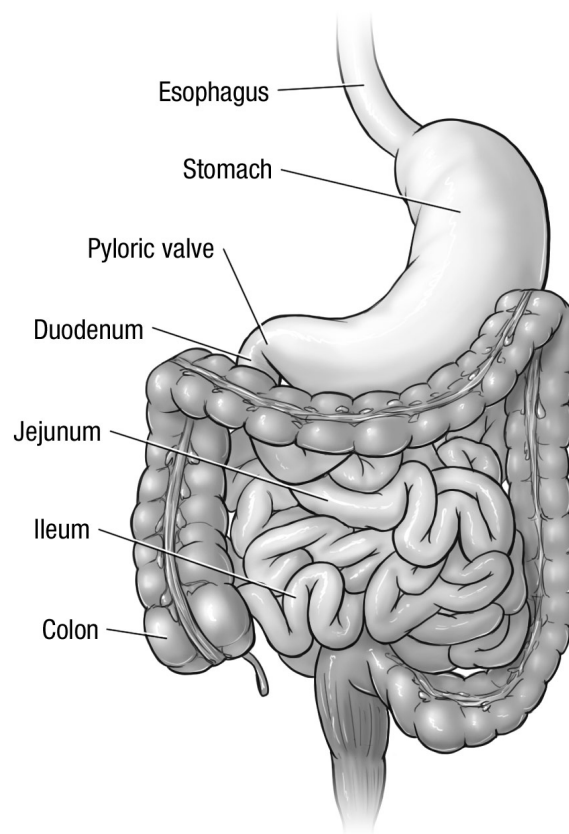


Figure 2. Normal digestive system

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When you eat and drink:

1. Food and fluids move from your mouth through a tube, the esophagus, into your stomach.
2. The stomach makes digestive juices that help to break down the food. The stomach does not absorb nutrients from the food, however.
3. Once the food is partly broken down, it passes into your small intestine. The pyloric valve controls the flow of food from your stomach to your intestine.
4. The small intestine has three parts, the duodenum, jejunum and ileum. The small intestine absorbs nutrients as food moves through it. Your body gets calories from absorbed nutrients.
5. Food then enters the large intestine, also called the colon. The large intestine absorbs water from any food that has not been broken down.
6. Food that is not broken down and absorbed leaves your body as waste.

Common Bariatric Surgeries

You lose weight when your body uses more calories than you eat. Bariatric surgery changes the structure of your digestive system in ways that can help you lose weight.

There are different kinds of bariatric surgeries. “Restrictive” surgeries decrease the size of your stomach. A smaller stomach means you cannot eat or drink much at one time. “Malabsorptive” surgeries decrease the amount of nutrients and calories your small intestine absorbs. Some kinds of bariatric surgeries reduce the amount you can eat and also limit the nutrients and calories your body absorbs.

There are two ways to do bariatric surgery:

- **Laparoscopic surgery.** Most bariatric surgeries are done this way. A laparoscope is a thin tube with a tiny camera at the end. Your surgeon puts this tube and other surgical tools through small cuts in your abdomen. A large incision is not needed. The camera at the end of the tube lets your surgeon see inside your body to do the procedure.
- **Open surgery.** Some people cannot have laparoscopic bariatric surgery. For example, if you have had surgery on your abdomen in the past, you may need open surgery for your bariatric procedure. During open surgery, your surgeon makes a larger, single incision to reach your stomach and intestine. It usually takes longer to recover from this kind of surgery.

The following sections give short descriptions of common bariatric surgeries. You are evaluated and you prepare in the same way, no matter which surgery you have.

This is only a look at the current options. New procedures are always being developed. Ask your surgeon for more information before you have any surgery. Talk with your surgeon about the benefits, risks and complications of all options so you can make the right choice for you.

Roux-en-Y gastric bypass

The Roux-en-Y (roo-en-y) gastric bypass is the bariatric surgery procedure done most often. The word “gastric” means stomach. This bypass surgery decreases the amount you can eat and drink at one time and reduces the nutrients your small intestine absorbs. It is named for the surgeon who first described it and for the Y shape of the intestines after the surgery.

Your surgeon divides your stomach into two parts — a small, upper part, and the remaining, lower part. See Figure 3. The smaller part is called the gastric pouch. It is about the size of a walnut and holds only about one tablespoon of food.

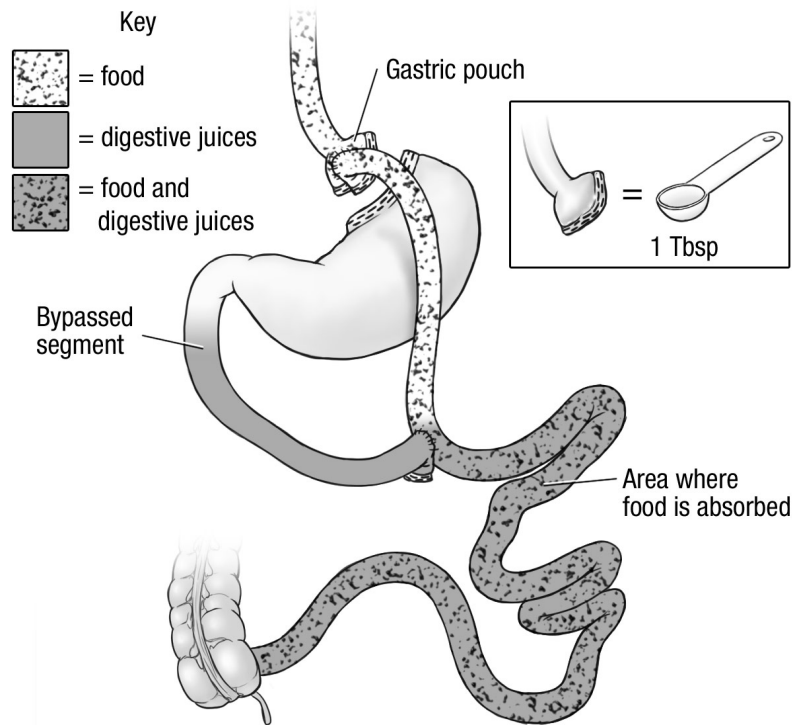


Figure 3. Roux-en-Y gastric bypass

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Your surgeon cuts your small intestine and connects the lower part to the gastric pouch. The upper part of your small intestine that is still attached to the rest of your stomach is called the bypassed segment. Your surgeon connects it to the middle of your small intestine. Your intestines now form a “Y.”

When you eat and drink, food and fluids enter the gastric pouch and then move into the small intestine connected to it. Juices that digest food drain from the large, lower part of the stomach through the bypassed segment. They enter the middle part of your small intestine where they mix with the food you have eaten. The rest of your small intestine absorbs nutrients and calories as food moves through it. Because food passes by most of your stomach and the first part of your small intestine, your body absorbs fewer calories and nutrients.

Sleeve gastrectomy

A sleeve gastrectomy limits how much you can eat and drink at one time. “Gastrectomy” means removing some of the stomach permanently. During a sleeve gastrectomy, your surgeon removes a large part of your stomach. The remaining stomach forms a sleeve or tube about the size and shape of a banana. See Figure 4. This surgery does not affect the small intestine.

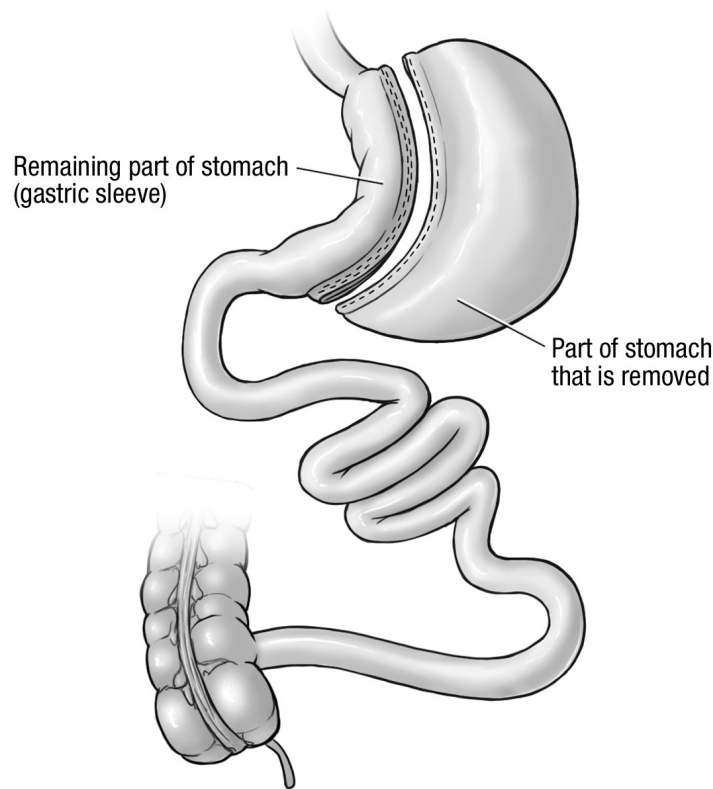


Figure 4. Sleeve gastrectomy

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Duodenal switch

This surgery is a more complex procedure. Usually it is used only for people who have a BMI greater than 50. This surgery may be done in two separate stages six months to two years apart. A duodenal switch limits how much you can eat and reduces the nutrients your body absorbs. First, your surgeon does a sleeve gastrectomy and takes out a large part of your stomach. The surgeon forms the rest into a sleeve shape. See Figure 5.

Then your surgeon cuts just below the first part of your small intestine, called the duodenum, and also farther down. Your surgeon brings the bottom part up and attaches it to your duodenum. The other portion of the small intestine is attached close to the bottom of the intestine.

This surgery changes how your digestive juices flow. Digestive juice that comes from your liver is called bile. You also have digestive juice that comes from your pancreas. Your bile and pancreatic juices continue to flow but they flow through only a small portion of the lower part of your small intestine.

This surgery has more risks than other bariatric surgeries. Sometimes this surgery is called a biliopancreatic diversion with duodenal switch.

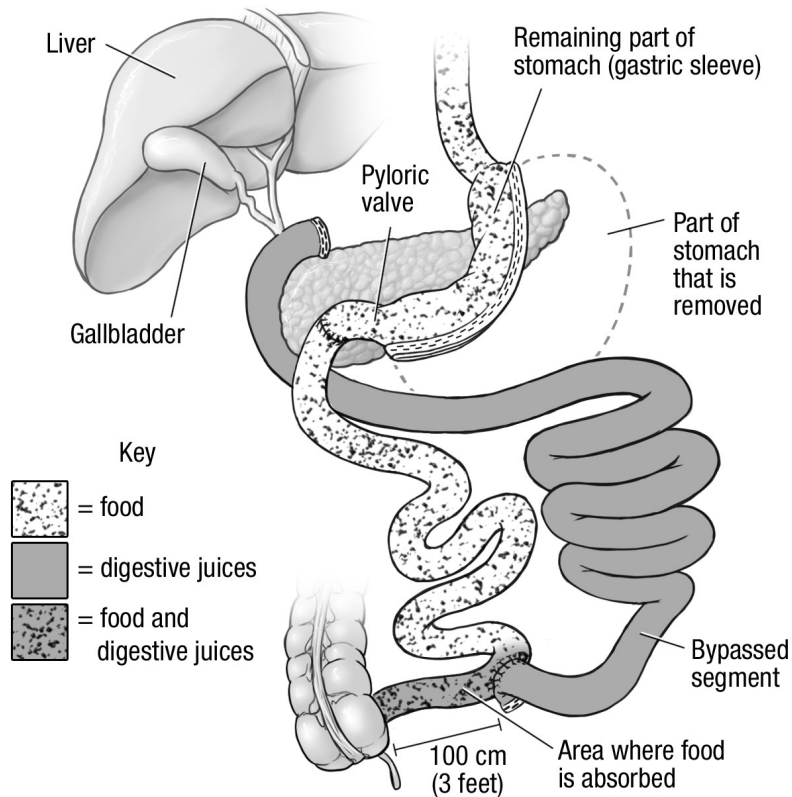


Figure 5. Duodenal switch

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Distal Roux-en-Y gastric bypass

This procedure is rarely done. Talk with your surgeon if you have any questions. The basic steps are the same as a typical Roux-en-Y bypass. But the bypassed segment that carries digestive juices from the large, lower part of the stomach is attached farther from the gastric pouch. “Distal” means farther away. See Figure 6. Food mixes with digestive juices at a lower part of your small intestine. Because food then moves through a much shorter portion of the small intestine, your body absorbs fewer nutrients and calories. This surgery sometimes is called the “very, very long limb Roux-en-Y gastric bypass.”

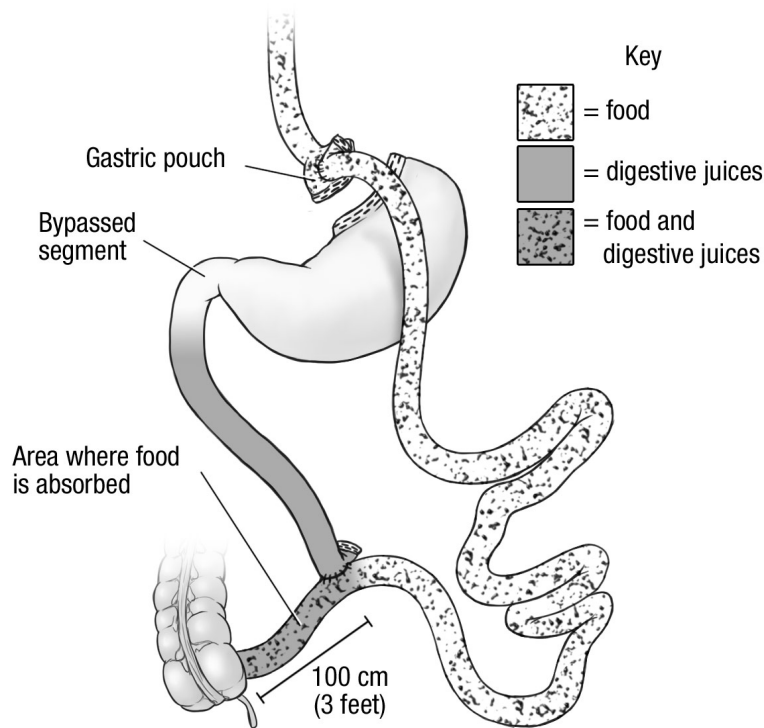


Figure 6. Distal Roux-en-Y gastric bypass

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Laparoscopic adjustable gastric banding

This surgery sometimes is called LAP band surgery. It uses a band to divide your stomach into two parts. See Figure 7. The band presses on the outside of the stomach to create a narrow opening between the small upper part, called the gastric pouch, and the rest of your stomach. The gastric pouch holds only a small amount of food or liquid at a time.

Your surgeon puts a port just under your skin near your stomach. A port is a flat, rounded device. A tube connected to the port runs to the band around your stomach. Salt water (saline) injected into the port runs through the tube to fill the band and narrow the opening between the parts of the stomach. This slows the flow of food and liquid from the gastric pouch into the lower part of the stomach. That way, you feel full after you eat a much smaller amount than usual.

If needed, saline can be taken out through the port to make the opening bigger. More saline can be added later to make the opening smaller. This is why the procedure is called “adjustable.” The band also can be taken out with surgery if necessary. Some medical centers do not do removal surgery.

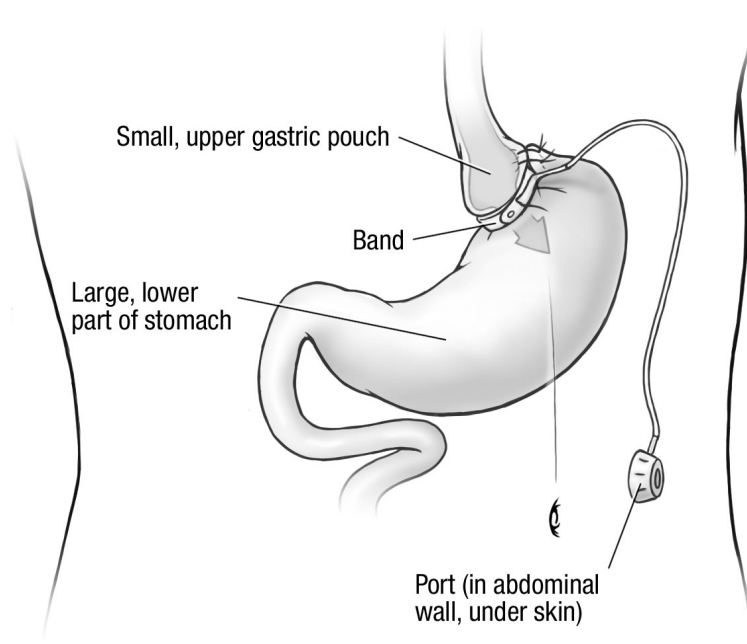


Figure 7. Laparoscopic adjustable gastric band

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Vertical banded gastroplasty

This surgery is also called VBG. It uses staples to divide the stomach into two parts. A narrow opening connects the small, upper pouch to the rest of your stomach. A plastic band surrounds the opening. See Figure 8. Some medical centers do not do this surgery.

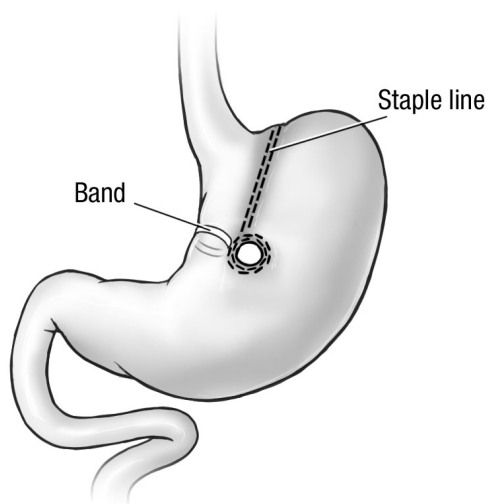


Figure 8. Vertical banded gastroplasty

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About Your Surgery

Preparing for surgery

You need to prepare for your surgery. You get instructions when your surgery is scheduled. It is very important that you follow what you are told to do. If you do not, your surgery may need to be rescheduled. If you have questions about what you are told, ask a member of your bariatric care team.

Before your surgery, tell your surgeon and health care providers about all medicines, vitamins, minerals and herbal or dietary supplements you take.

Before your surgery, talk with your bariatric care team about your use of caffeine, alcohol, tobacco, or other drugs. Your use of any of these products before or after your procedure may affect your healing and recovery. Tobacco use increases the risk of surgery complications, including death. You will be asked to stop smoking or using other tobacco products before your surgery.

If you take blood-thinning medications

Before your surgery, your blood-thinning medication routine may need to be changed. Talk with your health care provider who manages these medications as soon as you can. Because blood-thinning medications affect clotting and bleeding, both the health care provider who manages these medications and your surgeon will need to decide if your medications need to change. If you are not sure whether you take medications that affect blood-thinning, contact your health care provider or pharmacist.

If you have diabetes

Before your procedure, contact the health care provider who manages your insulin or other diabetes medications for specific instructions on taking or adjusting them.

In the hospital

In the operating room, you are given general anesthesia before your surgery begins. Anesthesia is medicine that keeps you asleep and comfortable during surgery. Usually weight-loss surgery lasts between two and four hours, but can take longer. This does not include the time it takes for you to go to sleep and wake up. You can expect to stay in the hospital for up to five days after your surgery.

When you wake up from surgery you'll have a tube with oxygen flowing through it under your nose, an IV with a pain medicine pump attached, a catheter in your bladder that is placed when you're asleep and generally comes out within 24 hours, and devices that wrap around each of your legs that squeeze every so often to keep the blood moving and help prevent blood clots. Rarely, a drain is placed inside the stomach at the time of surgery. This drain comes out through the skin and is generally removed before you go home. Even less often, you may have a tube in your nose for a short period of time.

There are things you need to do before you can leave the hospital. These include being able to drink enough fluids, get up and walk around without too much difficulty, take the medicines you

really need, and have good control of any pain you may have. It is sometimes required that you pass gas or have a bowel movement before leaving the hospital.

When you are ready to leave the hospital, you will have been given instructions on what to do at home and how to spot any problems. You will also be given telephone numbers to call if you have questions after you get home.

Nutrition

To lose weight successfully after surgery, you must make changes in your eating habits for the rest of your life. Since the **amount** of food you can eat after your surgery is less, the **quality** of your diet is very important. You need to choose the right amount and kinds of nutritious foods to stay healthy while you lose weight.

A dietitian meets with you before and after surgery to talk about the diet changes you will need to make. He or she can give you resources that include specific instructions and tips to help you follow your diet plan.

Following the diet plan that your health care team gives you can help you heal properly and avoid problems. For example, if you eat or drink large amounts or eat too quickly, you may feel sick to your stomach, vomit or have pain in your lower chest or upper abdomen. If you don't eat meals at set times, don't eat enough fiber, or aren't physically active, you may become constipated. And some foods, such as those high in sugar or fat, may cause stomach pain or discomfort.

Vitamins and supplements

Because weight loss surgery limits the amount of nutrients your body absorbs, you will need to take certain vitamin and mineral supplements for the rest of your life. For example, you may be told to take daily multivitamins with minerals and calcium. Other supplements you may be told to take include iron and vitamin B12 and vitamin D.

Talk with your dietitian or health care provider about the vitamins and supplements you need and how often to take them. Vitamins and supplements come in different forms such as liquid, chewable and powder. Some require an injection. Be sure you know which kind to use.

Side Effects, Risks and Complications of Surgery

Side effects

You may have some pain or discomfort after surgery. It is important for you to manage your pain. Talk with your bariatric care team about medicine and other ways to control pain. You also may have side effects from anesthesia such as sore throat, shivering, sleepiness, dry mouth, nausea and vomiting. These may last for a while after the anesthesia wears off.

As your body reacts to rapid weight loss in the first six months after surgery, you may have changes that include:

- Nausea and vomiting.
- Body aches.
- Feeling tired.
- Feeling cold.
- Dry skin.
- Hair thinning and hair loss.
- Mood changes.
- Concerns about self-esteem or personal relationships.

These changes should get better with time. If they do not or if you have questions about symptoms after surgery, talk with a member of your bariatric care team.

Risks and complications

Every surgery has risks and possible complications. If you are obese, your risk is higher to develop blood clots and pneumonia. Your chance of complications goes up the more you weigh. It also is higher if you smoke or are not physically active. Problems also are more likely if you have had a blood clot in the past or have sleep apnea that has not been treated.

Each weight loss procedure may have its own additional risks. Before you have weight loss surgery, talk with your surgeon about the benefits, risks and complications of the type of surgery you may have.

Risks of weight loss surgery include:

- Bleeding.
- Infection.
- Reactions to anesthesia.
- Rarely, death.

Short-term complications include:

- **Blood clots.** Blood clots that form in the legs and travel to the lungs are called pulmonary emboli. This is one of the most common causes of death with weight loss surgery. To promote blood flow and help keep clots from forming, you will be asked to walk often and to move your legs and feet when you sit or lie down. You may be given medicine or have compression stockings placed on your lower legs to help prevent clots.
- **Pneumonia.** To help prevent pneumonia, you may be taught breathing exercises to do before and after surgery. You likely will be asked to walk often beginning the night of or the day after your surgery. Sitting in a chair or standing up also can help.
- **Anastomotic leak.** “Anastomosis” means to join one part of your small intestine to another part or to your stomach during surgery. If an anastomosis does not heal fully, it can leak. This does not happen very often. But if it does, it can cause serious problems, including death. You may have an X-ray or other scan before you leave the hospital to be sure there is no leak in your abdomen. **If you have severe pain in your abdomen during the first few weeks after surgery, seek emergency medical care.**

- **Incisional hernia.** If you have open surgery, tissue in your abdomen may bulge through the muscle near the incision. This is called an incisional hernia. You may need surgery to fix a hernia.
- **Gallstones.** Rapid weight loss increases the risk of forming gallstones. Your surgeon may have you take medicine to help prevent gallstones.

Long-term complications include:

- **Ulcer.** A sore, or ulcer, may develop where your small intestine is sewn to the upper part of your stomach or gastric pouch. This can cause bleeding or abdominal pain. Medicine usually helps, but you may need surgery. Some medicines including those that contain aspirin, ibuprofen or naproxen may increase the risk of stomach ulcers. Ask which medicines to avoid after your surgery.
- **Stricture.** The opening between your stomach and small intestine can become too narrow. This is called a stricture. You may need to have surgery or another procedure to make the opening wider.
- **Nutrition problems.** Your body may not absorb some vitamins, minerals or other nutrients properly after your surgery. You also may not get enough of some nutrients through your diet. This could lead to specific deficiencies such as a low blood iron level (anemia), especially if you are a woman and are still menstruating. Lack of proper nutrients also can cause kidney stones and nerve, bone or other problems. Be sure to follow the nutrition plan you are given. Also take the vitamins and supplements that your bariatric care team tells you to.
- **Dehydration.** Since you will not be able to drink a lot at any one time after your surgery, your body may not get enough fluids. This is called dehydration. To help prevent dehydration, sip low calorie liquids often during the day, especially between meals.
- **Dumping syndrome.** After your surgery, foods high in sugar or fat that you eat will travel quickly through your stomach pouch and “dump” into your intestine. This can cause nausea, dizziness and sweating. You also may have diarrhea 30 to 60 minutes after you eat sugary foods. To help prevent dumping syndrome, drink liquids between meals. Also choose foods and liquids that are low in fat and sugar. Eat and drink slowly.
- **Extra skin.** Losing a lot of weight may leave you with folds of extra skin. Some people have plastic surgery to remove extra skin. That surgery usually is not done for at least one or two years after bariatric surgery, when weight loss slows or stops. You must have an evaluation and insurance approval before plastic surgery. Insurance often does not pay for this kind of surgery.

Life After Surgery

After weight loss surgery, your mood, health and quality of life may get a lot better. You'll probably lose the most weight during the first six months after surgery. You may sleep better. Conditions like diabetes, high blood pressure and joint problems may improve. If you have been taking medicine to treat health conditions, you may be able to reduce or stop taking it after you lose weight.

Weight loss surgery is not the end of a long process. It actually marks the start of an effort to manage your weight and health that will go on the rest of your life. You will need to make changes in your eating and physical activity habits. Without these changes, you may regain weight over time.

Emotional reactions and other effects

Many people notice that their mood and self-esteem improve after surgery. However, sometimes people misjudge the changes they need to make for a successful, lasting outcome. Your eating habits will change greatly. Because your stomach is much smaller, you have to limit the amount of food and liquid you take in. While other people can eat full meals, after surgery you probably will not be able to do so. You will need to take vitamin and mineral supplements every day. And you will need to stay physically active for the rest of your life to keep from gaining back the weight you lose. All of this can create stress.

For women, weight loss may lead to more regular menstrual periods and improve fertility. However, because rapid weight loss places stress on your body, you are strongly advised not to become pregnant during the first 18 months after bariatric surgery. Use barrier methods to prevent pregnancy. Pills and other kinds of birth control may not work as well during times of rapid weight loss.

Also, because your body looks different, you may face new issues and challenges. These may include:

- Changes in relationships with your spouse, family, friends and co-workers.
- Changes in sexual relationship with your spouse or significant other.
- Depression.
- Anxiety.
- Being unhappy with the way your body looks.
- Misuse of alcohol or other substances.

If you have any of these or other concerns, talk with the psychiatrist or psychologist you saw during your bariatric evaluation or with another member of your bariatric care team.

Staying on track

It can be hard to continue healthy habits and keep off weight for a long time. Setbacks are a normal part of behavior change. The important thing is to get back on track. If you gain back some or all of the weight you have lost, it can be very hard to lose it again. And some of your health problems may return or become worse.

Do not ignore setbacks or put off asking for help. If you find yourself slipping back into old habits, call your bariatric program coordinator to learn about ways you can get support.

These tips can help you stay on track:

- **Go to all follow-up appointments.** These visits are very important to the success of your surgery. Your bariatric care team can look for early signs of problems. They also can help

you manage side effects and avoid complications.

- **Follow the nutrition instructions you are given.** This can help you lose weight and avoid problems such as nausea, vomiting, stomach pain, diarrhea and constipation. It also can help prevent nutrition problems.
- **Follow the medicine instructions you are given.** You may be told to take or avoid certain medicines. Review all your medicines with your bariatric care provider at each appointment. Your provider may suggest changes to the medicines you take.
- **Avoid dehydration.** Ask your dietitian or another member of your bariatric care team about ways to get enough fluid.
- **Avoid snacking.** Unless you are told to do something else, eat three meals a day. Snacking throughout the day can lead to weight gain.
- **Stay active.** Unless you are told something else, do at least 30 minutes of moderate to vigorous physical activity a day. This can help you lose weight and keep it off. Physical activity also gives you other health benefits.
- **Join a support group.** Share ideas and get support from others who have had weight loss surgery.
- **Consider professional help.** A counselor or other health care provider can help you cope with issues that may lead to unhealthy habits.

Reversing the surgery

In rare cases, such as when a surgery complication cannot be managed another way, weight loss surgery must be undone. But this means another surgery that carries a higher risk of complications than the first surgery. There must be a very good medical reason to reverse bariatric surgery. You should think of bariatric surgery as a permanent change.

Follow-up appointments

You will need to return for follow-up visits in the first year after your surgery. You may have various tests, blood work and exams. Your health care provider may suggest that you return for additional check-ups for the rest of your life. Follow the schedule of appointments you are given.

Contacting Your Bariatric Care Team

If you have questions after you read this information, call the appropriate number and ask for a member of your bariatric care team.

Your bariatric care team

Endocrinologist, nurse practitioner or physician assistant

Bariatric program coordinator or registered nurse

Surgeon

Psychologist or psychiatrist

Dietitian

This material is for your education and information only. This content does not replace medical advice, diagnosis or treatment. New medical research may change this information. If you have questions about a medical condition, always talk with your health care provider.

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