

Welcome to the University Medical Center Surgical Weight Loss Program.

Thank you for choosing UMC for your weight loss surgery. Our goal is to provide you with a successful surgery, giving each person a chance to live a longer, healthier and more fulfilling life. We are committed to provide you with the best care possible. The UMC-SWL program offers a comprehensive and multidisciplinary team to help you achieve and maintain your weight loss goals.

Surgical weight loss is a safe and effective alternative when other methods are not successful and obesity is a threat to health. However, surgical weight loss is not a quick fix, success depends on commitment to change habits and a lifelong diet modifications and exercise.

Our program offers several types of bariatric surgery, including Gastric Banding, Gastric Bypass, Sleeve Gastrectomy, and surgical revisions of previous bariatric surgery.

These procedures are performed using endoscopic surgery (also called minimally invasive surgery) or laparoscopic surgery, a technique in which operations in the abdomen are performed using small incisions. This type of surgery represents any procedure that is less invasive than open surgery used for the same purpose. On the other hand, open surgery means cutting skin and tissues and larger incisions are needed. Minimally invasive surgeries are generally operations that are less traumatic than open surgery with quicker recovery and less pain for the patient.

Advantages of Endoscopic Surgery;

There are a number of advantages to the patient with laparoscopic surgery versus an open procedure. These include:

- Smaller incisions, which reduces pain and shortens recovery time, as well as resulting in less post-operative scarring and infections.
- Less pain, leading to less pain medication needed.
- Reduced bleeding, which reduces the chance for a blood transfusion.
- Hospital stay is shorter, and often with a same day discharge which leads to a faster return to regular activities.

Our surgeons are on the forefront of medicine, advancing Endoscopic surgery to the next level, offering patient surgical procedures with either less scarring or no visible scar following surgery. Some of the featured techniques include:

- Robotic Surgery
- Single-Incision Laparoscopic Surgery (SILS)

To make an appointment with one of our bariatric surgeons call us at 520-694-6144 or 520-626-2635.

Sincerely,



Carlos A. Galvani, MD
Director of Bariatric Surgery
University of Arizona
College of Medicine

What is obesity?

Body Mass Index, or BMI, is the most commonly used way of assessing whether someone is obese. BMI measures the relationship between weight and height. An ideal BMI ranges from 19-25. Between 25 and 30 is overweight, and 30-35 is obese. A BMI of 35-40 is considered to be severely obese. At 40 and above, obesity is considered "morbid." In medical terms, "morbid" means related to health problems or illness. BMIs over 40 are called "morbid" because the excess weight causes symptoms like joint pain and shortness of breath, and illnesses like diabetes and high blood pressure. BMIs between 35-40 are considered morbid if there is an obesity-related illness present.

Calculate BMI

$$\frac{\text{Weight (pounds)}}{\text{Height (inches)}^2} \times 703$$

BMI Range	Status	General Guidelines
19-25	Ideal	
25-30	Overweight	Consider conventional weight loss techniques
30-35	Obese	like reducing calories and exercising
35-40	Severely obese	Approximately 80 pounds overweight
35-40 + obesity-related illness	Morbidly obese	80 pounds overweight with related illnesses Consider surgery
40 and above	Morbidly obese	Approximately 100 pounds overweight Consider surgery

Source: Society of American Gastrointestinal and Endoscopic Surgeons

See Appendix I for BMI charts. Locate your height in inches on the left side of the chart. Follow the row across until you find your weight. Your BMI is listed at the top of this column. For example, someone who is 68 inches tall and weighs 230 pounds has a BMI of 35.

How common is obesity?

65% of adults in the U.S. are overweight, and 31% are obese (an 8% increase in the last ten years).¹ In the last ten years, the average BMI in the U.S. population has increased from 24.9 to 26.5.² For persons with a BMI of 30 kg/m² or above, mortality rates from all causes, and especially from cardiovascular disease, are generally increased by 50 to 100 percent above that of persons with BMIs in the ideal range.³ Soon, obesity will replace tobacco and smoking as the number one preventable health problem in the United States.⁴

What causes obesity?

- *Environment*
Our western culture has been called “obesogenic”, or obesity-promoting. For example, high-calorie junk food and fast food are convenient and inexpensive. Portion sizes have become very large over the last few decades.
- *Lifestyle*
Many people are accustomed to a sedentary lifestyle. They work long hours at desk jobs and spend leisure time watching television. It is challenging to find time and energy to exercise with a demanding schedule.
- *Psychology*
Eating disorders like bulimia nervosa or binge eating disorder are related to obesity. People without eating disorders may turn to food when they feel depressed or bored, for comfort, or as part of socializing with friends and family.
- *Genetics*
Obesity often runs in families and genetics are responsible for some part of obesity development. However, the drastic increase in obesity in recent years has occurred too quickly to be attributed to genetic change. Most likely it has more to do with lifestyle factors and environment.

How does obesity affect health?

Below is a list of health problems that are linked to obesity.

- Hypertension (high blood pressure)
- Diabetes (type II)
- Dyslipidemia (high cholesterol or triglycerides)
- Heart disease
- Stroke
- Gallbladder disease
- Osteoarthritis
- Sleep apnea
- Some cancers (breast, endometrial, and colon)

Some of these health conditions can improve or resolve with weight loss. One review pooling the results of 136 bariatric surgery studies found that diabetes, dyslipidemia, hypertension, and sleep apnea were improved or resolved in the majority of patients.⁵

Mortality

Morbid obesity can cause premature death due to one or more of the health problems listed above. In 2000, it was estimated that poor diet and physical activity were the cause of 365,000 (15.2%) of deaths in the U.S.⁶

What are the weight loss methods?

- *Diet*
Reducing calorie consumption by 500 calories a day will result in approximately 1 pound of weight loss per week (3,500 calories = 1 pound). Reduced-calorie diets are effective methods to lose weight, but most dieters end up regaining lost weight after they discontinue their diet.
- *Exercise*
In addition to improving cardiovascular fitness, exercise promotes weight loss by burning calories. Current recommendations for exercise are at least 45 minutes every day. Those with physical limitations due to obesity can start with small changes in activity levels, like walking for a few minutes at a time.
- *Medication*
Meridia (antidepressant) and Orlistat ("fat blocker") are the only two drugs currently FDA approved for weight loss. They are meant to be used in conjunction with improved diet and exercise. Orlistat was recently made available over-the-counter as Alli.
- *Surgery*
For those who have not been successful with other methods, who are experiencing health problems due to obesity, and are highly motivated to implement life-long changes, surgery may be a good option.

Who could be a candidate for bariatric surgery?

- 1) Patients considering surgery should have already tried to lose weight by other methods. Surgery is not the first choice for weight management. When other methods are not successful and obesity is a threat to health, it is time to learn about surgical options.
- 2) Motivation to change habits and a commitment to lifelong diet modifications and exercise are necessary when undergoing bariatric surgery. The surgery is only one tool. Success depends on following diet and exercise recommendations after surgery.
- 3) A BMI of 35 is considered for surgery when it is accompanied by obesity-related illnesses like diabetes, hypertension or sleep apnea.
- 4) BMIs over 40 are eligible for surgery based on weight alone. Patients with BMIs greater than 60 may be asked to lose weight before surgery for safety reasons.

Who should not have surgery?

- 1) Anyone who cannot adhere to the necessary pre- and post-operative dietary changes should not have bariatric surgery.
- 2) Anyone with a substance abuse problem will not be considered for this operation.
- 3) Those with an eating or psychiatric disorder that is untreated or unresolved are not surgical candidates. If these conditions are resolved or well-controlled, and clearance is received from a psychologist, surgery can be considered.
- 4) Women planning pregnancy in the near future should not undergo surgery.
- 5) Patients with health conditions making them medically high risk should avoid surgery.

How does bariatric surgery work?

There are two main ways that bariatric surgeries help people lose weight. The first is by malabsorption. Malabsorptive surgeries make the digestive tract shorter, so fewer calories are absorbed from the food you eat. The second is restriction, which reduces the size of the stomach. A smaller stomach creates a feeling of fullness after eating a small amount of food. Some surgeries, such as gastric bypass, are both restrictive and malabsorptive, while others such as laparoscopic adjustable gastric banding, are restrictive only.

What are the different types of surgeries?

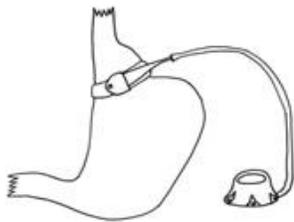
There are different operations to treat severe obesity. Each of these has advantages and disadvantages. No single operation is right for everyone. When you meet with our surgical weight loss team, we will help you decide which operation is best for you. We will also help to determine whether you are a good candidate for laparoscopic surgery (surgery through very small incisions) or if you would be better suited to a traditional open approach (one larger incision).

The most common operations we perform are:

- Laparoscopic Adjustable Gastric Band
- Roux-en-Y Gastric Bypass
- Sleeve Gastrectomy

Pre- and post-operative diets are the same no matter what surgery you have.

To choose the best possible procedure for you, we consider several different factors: how overweight you are, what types of food you eat, and whether you have any gastrointestinal problems such as colitis or irritable bowel syndrome (IBS). We work with you to identify any lifestyle concerns that would make one operation better than another.



Laparoscopic Adjustable Gastric Band

The laparoscopic adjustable gastric band is a small device made of silicone rubber which is wrapped around the very uppermost portion of the stomach. Gastric banding works by decreasing the functional size of the stomach. The lap band turns the stomach into an hourglass shape -- the upper portion of the hourglass is called the stomach pouch. The food you eat quickly fills the pouch, then empties very slowly through the constriction created by the band, just like sand passing through an hourglass.

The band is adjustable. Four to six weeks after surgery, you will return to the hospital to have your band inflated. The band is inflated by injecting saline (salt water) through an access port located underneath the skin on your stomach. If the restriction is too tight or too loose, you will come back in for an adjustment (adding or removing saline).

The lap band helps you lose weight by restriction. The stomach pouch is only 15 to 30 mL in size -- 1 or 2 tablespoons. The pouch fills up very quickly after eating only a small amount of food, and provides a sensation of fullness. Thus, the small pouch places a physical restriction on the amount of food you are able to eat (or want to eat) at one sitting.

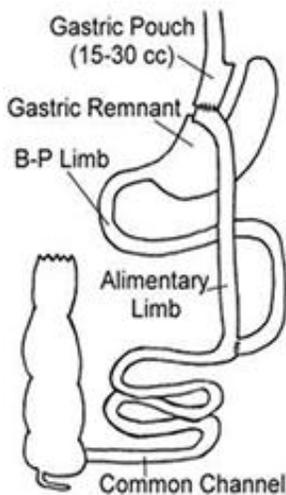
Advantages

- *Lower Risk:* Because it is a relatively simple operation, it has the lowest operative risk of all bariatric surgeries. No cutting or stapling of the stomach is required, and the small intestine is not rerouted.
- *Adjustability:* Adjustments allow the amount of restriction to be tailored to your personal needs. No other operation has this adjustability.
- *Reversible:* The lap band can be deflated or removed. The other types of surgeries are permanent.
- *Short hospital stay:* Most patients stay one night in the hospital after surgery and go home the following day.

Disadvantages

- *Foreign Body:* The lap band is a foreign body. Any time a foreign body is placed around the stomach, problems such as infection or erosion may occur.
- *Multiple adjustments:* Everyone requires multiple band adjustments (at least 3 or 4). Some people require more adjustments. For some people, it may be difficult to find the perfect adjustment where the band is tight enough for good weight loss but not so tight that it causes vomiting.
- *Gradual weight loss:* Weight loss with the lap band is variable. Weight loss tends to be more gradual with the lap band compared to gastric bypass.
- *Re-operations:* The lap band may have a higher need for reoperation than other procedures. Up to 10-20% of patients may need revisional surgery after the initial lap band placement.

Laparoscopic Roux-en-Y Gastric Bypass (RYGB)



The Roux-en-Y (pronounced "roo-on-why") gastric bypass is currently the most commonly performed weight loss operation in the United States. It has been around for over 30 years and has been demonstrated to provide an excellent balance of weight loss and manageable side effects.

The operation can be performed either laparoscopically, through 5 very small incisions in the abdominal wall, or open, through a traditional midline abdominal incision.

In the Roux-en-Y gastric bypass procedure, a surgical stapler is used to separate the upper portion of the stomach from the lower portion. The upper portion, only 1 to 2 tablespoons in size, is referred to as the "pouch." This pouch is then connected to a limb of small intestine called the "Roux limb." Food enters the pouch, and then passes through the alimentary limb. The bypassed limb (B-P, or biliopancreatic) contains digestive juices. Food finally mixes with the digestive juices in the "common channel", the part of small intestine downstream from the Y connection. The gastric bypass promotes weight loss by both restriction and malabsorption mechanisms:

- **Restriction:** The stomach pouch is small and determined by physician preference. The pouch fills up very quickly after eating only a small amount of food, and provides a sensation of fullness. Thus, the small pouch places a physical restriction on the amount of food you are able to eat (or want to eat) at one sitting.

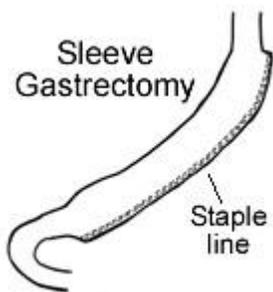
- **Malabsorption:** Because sections of the stomach and intestines are bypassed, you will absorb fewer nutrients from the food you eat. You will need vitamin and mineral supplements after the operation for the rest of your life.

Advantages

- *Experience:* RYGB has been around the longest of all three surgeries. There is more follow-up data available for this procedure than for the others.
- *Faster results:* Weight loss is more rapid than the lap band- if you follow dietary guidelines.
- *No foreign body:* RYGB leaves no devices behind
- *Follow up:* Less postoperative visits are needed, no adjustments after the surgery.

Disadvantages

- *Postoperative healing:* Surgery is more extensive, with re-routing of digestive organs. There is more pain and it takes longer to heal from this procedure than from the LAP BAND®.
- *Hospitalization:* Usually three days in the hospital
- *Permanent:* This procedure is not reversible



Laparoscopic Sleeve Gastrectomy, or 2-Stage Procedure

The sleeve gastrectomy is an operation in which the left side of the stomach is surgically removed. This results in a new stomach which is roughly the size and shape of a banana. Since this operation does not involve any "rerouting" or reconnecting of the intestines, it is a simpler operation than the gastric bypass. Unlike the laparoscopic adjustable gastric band procedure, the sleeve gastrectomy does not require the implantation of an artificial device inside the abdomen.

For certain patients, in particular those with a body mass index greater than 60, the sleeve gastrectomy may be the first part of a 2-stage operation. In the staged approach, the operation is broken down into two simpler and safer operations. In the first stage, a sleeve gastrectomy is performed. This allows patients to lose 80 to 100 pounds or more, making the second part of the operation substantially safer. Some people lose enough weight that they do not need any more surgery. For those who continue to the next stage, the second procedure is usually performed eight to twelve months after the first. The "sleeve" stomach is converted into a lap band or gastric bypass.

Advantages

- Safer and simpler than gastric bypass
- If weight loss is successful, may not need second operation
- Weight loss after first surgery makes second surgery safer.

Disadvantages

- *Two operations:* two-stage patients face the risks of surgery twice.
- *Newer technique:* There is not as much long-term follow-up data as with RYGB. Some insurance companies consider this technique to be investigational and refuse coverage.
- Hospital stay after surgery
- May require an open incision instead of laparoscopic technique.

SINGLE-INCISION BARIATRIC SURGERY

Surgeons at the UMC-SWL program are successfully performing Single-Incision Bariatric Surgery (SILS) through a single ½-inch umbilical incision rather than the traditional four to five incisions in the abdomen. In some cases, a second ¼ inch incision is made to provide adequate exposure to the upper stomach during the surgery.

SILS is identical to the traditional Laparoscopy, except that fewer incisions are made, potentially resulting in less pain, quicker recovery and superior cosmetic results. The technique is expected to gain popularity among surgeons because it represents one of the next major advances in minimally invasive surgery.

Currently only a small number of surgeons in the country are offering this technique. Dr Galvani pioneered this technique for the treatment of obesity in the State of Illinois. However, only select patients may qualify for this technique.

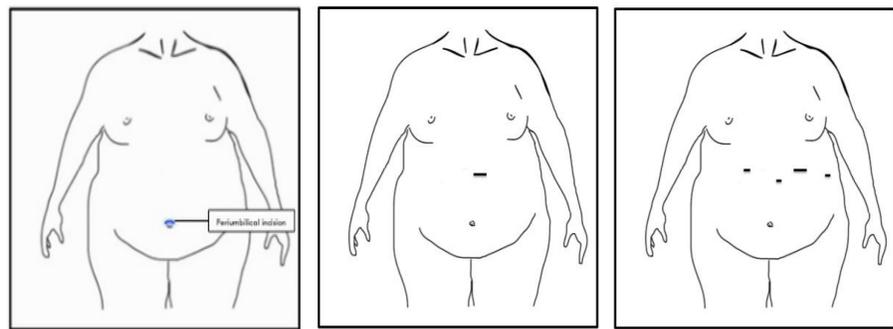
Potential advantages for the patient:

- 1) Less postoperative pain, from less abdominal incision.
- 2) Faster recovery, from less pain and fewer incisions.
- 3) Improved cosmetic results, since the scar is hidden in the umbilicus.

Procedures performed with technique are:

Laparoscopic Adjustable Gastric Band

Laparoscopic Sleeve Gastrectomy



What are the results of bariatric surgery?

There is no way to predict exactly what will happen for each individual. The outcome of surgery depends on many factors, including pre-operative BMI, and other illnesses. The most important factor is motivation. Those who follow dietary and exercise guidelines are likely to succeed. Those who continue to overeat after surgery will not be successful. The single most important factor to predict success is a consistent exercise regimen.

We do know how people do in general following surgery. Follow-up studies have shown that 60-80% of those undergoing bariatric surgery are successful—meaning they lose at least half of their excess weight and keep it off for at least five years.

What can go wrong?

All surgeries have risks. People undergoing bariatric surgery have a higher risk than the general population because of excess weight and any other comorbidities. It is important to understand the potential risks as well as the benefits. The risks of bariatric surgery include:

- Infection
- Anastomosis leak: leaking or blockage where tissue is sewn or stapled together. This requires another surgery to correct.
- Pneumonia
- Bleeding at incision site
- Blood clot in legs or lungs
- Splenectomy: sometimes it is necessary to remove the spleen.
- Recurrent vomiting: requiring more surgery to correct
- Incisional hernia: bulge appears at surgery site. Needs another surgery to correct.
- Death
- Hair loss: rapid weight loss can cause thinning hair. The thinning is temporary and can be minimized by taking vitamins and eating adequate amounts of protein.
- Gallstones: rapid weight loss can be associated with gall stone formation
- Weight regain: 20-40% of patients undergoing surgery regain most or all of their weight back.

What is the postoperative diet?

Our dietitians provide detailed information and counseling on proper diet. The first week after surgery is an all-liquid diet. Patients consume about 1 ounce of clear liquid for a total of 64 ounces per day. Week 2 is a blended diet. Meals during week 2 consist of light foods blended into a consistency like applesauce. In weeks 3 and 4 patients advance to a soft food diet, consuming foods like low-fat cottage cheese, yogurt, or tuna salad. For the long-term, the diet should be low-fat and well-balanced. Meals should stay small following surgery. Patients should continue to work with the dietitian to find the food choices that work best for them in the long term.

What about exercise?

Surgery is not a substitute for exercise. Exercise is essential for success after weight loss surgery. It helps to burn calories, increase metabolism, and stabilize blood sugar. To begin, simple changes to adopt are using stairs instead of taking the elevator, or get up to change channels instead of using the remote. Walking is a great way to begin exercising. Eventually patients should be doing 30-40 minutes of exercise every day.

Bariatric surgery program at the University of Arizona Medical Center

Our bariatric surgery program has two fellowship-trained surgeons who offer a range of different surgical options. In addition, an advanced practice nurse, nurse practitioner, registered dietician, and a customer service representative are dedicated exclusively to care for bariatric surgery patients. We also offer monthly support group meetings as well as an online support group.

I'm interested in the surgery. What do I do now?

Proceeding with weight loss surgery is a big decision. The process does take some time, usually several months between the time you decide to try surgery and the date of your operation. Before the procedure you will have at least two meetings with the surgeon. You will also meet with the dietitian, insurance coordinator, and/or nurse practitioner. You will undergo pre-operative testing and possibly meet with some specialists if your health needs more assessment. You will meet with the anesthesia team. If your insurance requires it, you may need to commit to a period of medically-supervised weight loss or consult with a psychologist before surgery. **Please note that we require all pre-op testing to be forwarded to us prior to your pre-op appointment. This allows us to go over all the results and decrease the possibility of canceling the surgery. Please bring copies of your pre-op testing with you to the pre-op appointment.**

The first step is to schedule an initial consultation with the surgeon. The surgeon will ask about your medical history, including past surgeries and current medications. Based on your weight, health, and personal preferences, the surgeon will recommend the type of surgery that is best for you. You may need to have additional doctor visits to be cleared for surgery by pulmonary or cardiology if you have a condition like sleep apnea or a heart problem. You will also have a lengthy discussion about risks and complications tailored to your weight, health status, and type of surgery.

Everyone is required to undergo standard preoperative testing. This can be done at UIC or with your primary care physician. The standard testing includes blood tests, a chest x-ray, and an EKG. You may be asked to obtain further testing if you have any health conditions that need to be worked up prior to surgery.

List of things to do before surgery

- Initial consult with surgeon
- Pre-operative testing: bloodwork, EKG, chest x-ray—can be done up to 6 weeks prior to surgery.
- Additional pre-operative testing: if medically indicated, may need to be evaluated for sleep apnea, or undergo stress testing for cardiac clearance, or other testing as needed depending on your medical conditions.
- Psychological evaluation
- Medically-supervised weight loss for 6-12 months, depending on insurance requirements
- Consultation with dietician
- Obtain approval from insurance company
- Clearance from anesthesia service
- Pre-operative visit with surgeon

Contacts

Insurance coordination	Antonia Cervantes	520-694-2050
Clinical questions, band adjustments, etc.	Melissa Carton	520-626-2635
Nutritional consultation	Kelli Jo Yee, RD	520-694-6626
Psychological evaluation	Joanna Katsanis, Ph D	520-626-8166

BMI	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Height (inches)	Body Weight (pounds)																
58	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167
59	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173
60	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179
61	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185
62	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191
63	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197
64	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204
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66	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216
67	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223
68	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230
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72	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258
73	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265
74	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272
75	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279
76	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287

BMI	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Height (inches)	Body Weight (pounds)																		
58	172	177	181	186	191	196	201	205	210	215	220	224	229	234	239	244	248	253	258
59	178	183	188	193	198	203	208	212	217	222	227	232	237	242	247	252	257	262	267
60	184	189	194	199	204	209	215	220	225	230	235	240	245	250	255	261	266	271	276
61	190	195	201	206	211	217	222	227	232	238	243	248	254	259	264	269	275	280	285
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75	287	295	303	311	319	327	335	343	351	359	367	375	383	391	399	407	415	423	431
76	295	304	312	320	328	336	344	353	361	369	377	385	394	402	410	418	426	435	443

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