



Bariatric Education

What is bariatrics?

Bariatrics is the study and treatment of obesity and those diseases associated with obesity. Diet, exercise, behavior modification, lifestyle changes, institutional and home medical equipment, medications and, in some cases, surgery are the tools used by bariatric physicians to help patients manage obesity.¹

What is obesity?

Obesity is defined as an excessively high amount of body fat or adipose tissue in relation to lean body mass. The amount of body fat (or adiposity) includes concern for both the distribution of fat throughout the body and the size of the adipose tissue deposits. Body fat distribution can be estimated by skinfold measures, waist-to-hip circumference ratios, or techniques such as ultrasound, computed tomography, or magnetic resonance imaging.²

What is BMI?

Body Mass Index or BMI is a tool for indicating weight status in adults, representing weight levels associated with the lowest overall risk to health. It is a measure of weight for height. For adults over 20 years old, BMI falls into one of these categories:³

BMI

Below 18.5 = Underweight
18.5 – 24.9 = Normal
25.0 – 29.9 = Overweight
30.0 and above = Obese

SEE CHART ON PAGE 3-4 TO DETERMINE BMI.

How does BMI relate to health?

The BMI ranges are based on the effect body weight has on disease and death. As BMI increases, the risk for some disease increases. Some common conditions related to overweight and obesity include:³

Cardiovascular disease
High blood pressure
Osteoarthritis
Premature death
Some cancers
Diabetes

BMI is not the only indicator of health risk.

BMI is just one of many factors related to developing a chronic disease (such as heart disease, cancer or diabetes). Other factors that may be important to look at when assessing your risk for chronic disease include:⁴

Diet
Physical activity
Waist circumference
Blood pressure
Blood sugar level
Cholesterol level
Family history of disease

Some statistics....

Obesity and obesity related diseases are some of the nations leading causes of preventable death. Smoking is the number one cause of preventable death in America.¹

Currently, 64 percent of U.S. adults are either overweight (BMI of 25 or greater) or obese (BMI of 30 or greater). The increase in obesity over the past 30 years has been fueled by environmental, social, economic, and behavioral factors, acting on a background of genetic susceptibility.⁵

References

1. Provided with permission by Dr. Kevin Huffman, D.O., President, American Bariatric Consultants
2. CDC Nutrition and Physical Activity Available at: <http://www.cdc.gov/nccdphp/dnpa/obesity/defining.htm> Accessed August 31, 2004
3. CDC Nutrition and Physical Activity Available at: <http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-adult.htm> Accessed June 6, 2004.
4. CDC Nutrition and Physical Activity Available at: <http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-means.htm> Accessed June 6, 2004.
5. NIH Obesity Research. NIH Obesity Research Task Force Strategic Plan for NIH Obesity Research. Available at: <http://www.obesityresearch.nih.gov/News/background.htm> Accessed August 30, 2004



Improving Quality of Life

So what are some things that a person can do to help improve their quality of life if they are overweight or obese?

Lifestyle Management and Physical Activity

Even if a person is large, they can still be physically active! Here are some tips:⁶

Start slowly. The body needs time to get used to a new activity. The goal at first may not be to lose weight, but to prevent further weight gain.

Warm up. Warm-ups get the body ready for action. Warm-ups include shrugging the shoulders, tapping the toes, swinging the arms or marching in place.

Cool down. One should slow down little by little. After walking fast, one should walk slowly or stretch for a few minutes to cool down. Cooling down may protect the heart, relax the muscles, and prevent injury.

Set goals. One should set short-term and long term-goals. A short-term goal may be to walk for five minutes at least three days for one week. It may not seem like a lot, but any activity is better than none.

Get support. One should get a family member or friend to join in the physical activity for support.

Track progress. Keep a journal of physical activity. It may not feel like progress is being made but looking back at the starting point brings a pleasant surprise.

Have fun! Try different activities to find the most enjoyable ones.

What physical activities can a person do?

Weight-bearing activities, such as walking, involve lifting or pushing one's own body weight.

Non-weight bearing activities, such as swimming and water workouts, put less stress on joints because one does not lift or push one's own weight. Feet or joint pain while standing may indicate that non-weight-bearing activities may be best for the individual.

Lifestyle activities, such as gardening, do not have to be planned. Other examples are: putting away the remote and getting up to change the channel, sitting in a rocking chair and pushing off with your feet, or taking the stairs instead of the elevator.

Physical activity does not have to be hard or boring to be beneficial. Anything that gets a person moving around, even for only a few minutes a day, is a healthy start.

Chances are, your health care provider will be pleased with any decision to start an activity program. *

* Patients should always consult a physician before starting any exercise program.

References

6. Based upon the article *Active at Any Size*, NIH Publication No. 04 - 4352, May 2004. Available at: <http://www.niddk.nih.gov/health/nutrit/activeatanysize/active.html>
As of August 23, 2004



Invacare® Bariatric BMI Chart

Source: http://www.diabetes.niddk.nih.gov/dm/pubs/riskfortype2/bmi_tbr.pdf

Height (Inches)	Normal					Overweight					Obese					Extreme Obesity																				
	BMI	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
58	91	96	100	105	110	115	119	124	128	133	138	143	148	153	158	162	167	172	177	181	186	191	196	201	205	210	215	220	224	229	234	239	244	248	253	258
59	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173	178	183	188	193	198	203	208	212	217	222	227	232	237	242	247	252	257	262	267
60	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179	184	189	194	199	204	209	215	220	225	230	235	240	245	250	255	261	266	271	276
61	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185	190	195	201	206	211	217	222	227	232	238	243	248	254	259	264	269	275	280	285
62	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191	196	202	207	213	218	224	229	235	240	246	251	256	262	267	272	278	284	289	295
63	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197	203	208	214	220	225	231	237	242	248	254	259	265	270	278	282	287	293	299	304
64	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204	209	215	221	227	232	238	244	250	256	262	267	273	279	285	291	296	302	308	314
65	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264	270	276	282	288	294	300	306	312	318	324
66	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216	223	229	235	241	247	253	260	266	272	278	284	291	297	303	309	315	322	328	334
67	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223	230	236	242	249	255	262	268	274	280	287	293	299	306	312	319	325	331	338	344
68	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230	236	243	249	256	262	269	276	282	289	295	302	308	315	322	328	335	341	348	354
69	128	135	142	149	155	162	169	176	182	189	196	203	209	216	223	230	236	243	250	257	263	270	277	284	291	297	304	311	318	324	331	338	345	351	358	365
70	132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243	250	257	264	271	278	285	292	299	306	313	320	327	334	341	348	355	362	369	376
71	136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250	257	265	272	279	286	293	301	308	315	322	329	338	343	351	358	365	372	379	386
72	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258	265	272	279	287	294	302	309	316	324	331	338	346	353	361	368	375	383	390	397
73	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265	272	280	288	295	302	310	318	325	333	340	348	353	363	371	378	386	393	401	408
74	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272	280	287	295	303	311	319	326	334	342	350	358	365	373	381	389	396	404	412	420
75	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279	287	295	303	311	319	327	335	343	351	359	367	375	383	391	399	407	415	423	431
76	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287	295	304	312	320	328	336	344	353	361	369	377	385	394	402	410	418	426	435	443



BMI Calculator

Body Mass Index can be calculated using pounds and inches with this equation.

$$\text{BMI} = \left(\frac{\text{Weight in Pounds}}{(\text{Height in inches}) \times (\text{Height in inches})} \right) \times 703$$

For example, a person who weighs 220 pounds and is 6 feet 3 inches tall has a BMI of 27.5.

$$\left(\frac{220 \text{ lb.}}{(75 \text{ inches}) \times (75 \text{ inches})} \right) \times 703 = 27.5$$

Reference 3.

BMI	Weight Status
Below 18.5	Underweight
18.5 – 24.9	Normal
25.0 – 29.9	Overweight
30.0 and Above	Obese

Reference 1.

Common Myths

Myth: BMI Measures Body Fat

Two people can have the same BMI, but a different percent body fat. A bodybuilder with a large muscle mass and a low percent body fat may have the same BMI as a person who has more body fat, because BMI is calculated using body weight and height only.

This is a good reminder that BMI is only one piece of a person's health profile. It is important to talk with a doctor about other measures and risk factors. (e.g., waist circumference, smoking, physical activity level, and diet.)

Myth: BMI is a Diagnostic Tool

BMI alone is not diagnostic. It is one of many risk factors for disease and death. As a person's BMI increases, the risk for many diseases increases as well.²

References

1. CDC Nutrition and Physical Activity Available at: <http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-adult.htm> Accessed June 6, 2004.
2. CDC Nutrition and Physical Activity Available at: <http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-means.htm> Accessed June 6, 2004.
3. Body Mass Index Formula Available at: <http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-adult-formula.htm> Accessed August 30th, 2004.