

MCA Midcoast Cardiovascular Associates

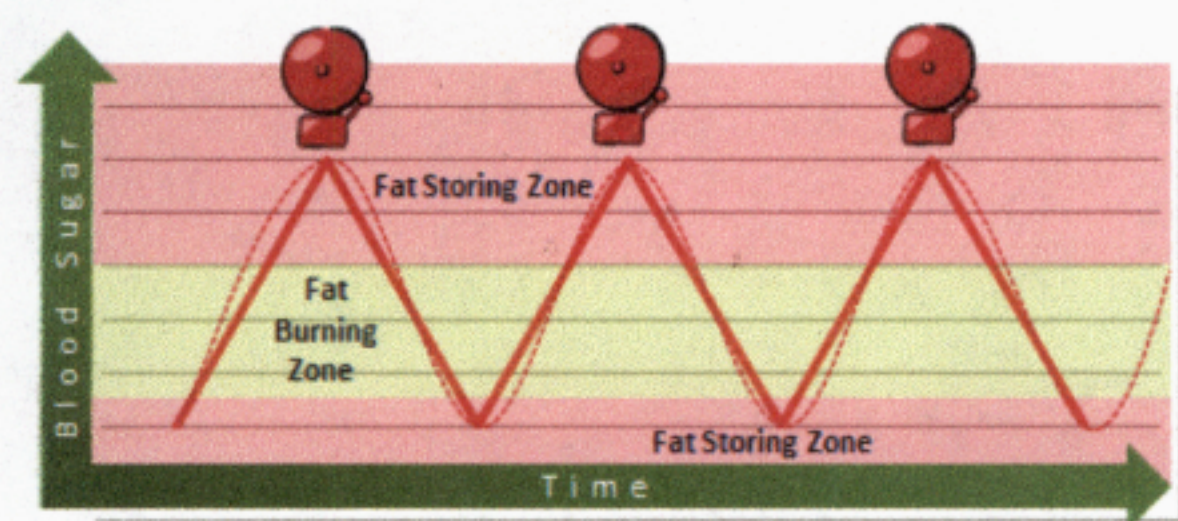
Protecting
Your Heart:
The Blood
Sugar/Insulin
Connection
**Tips for
Success**

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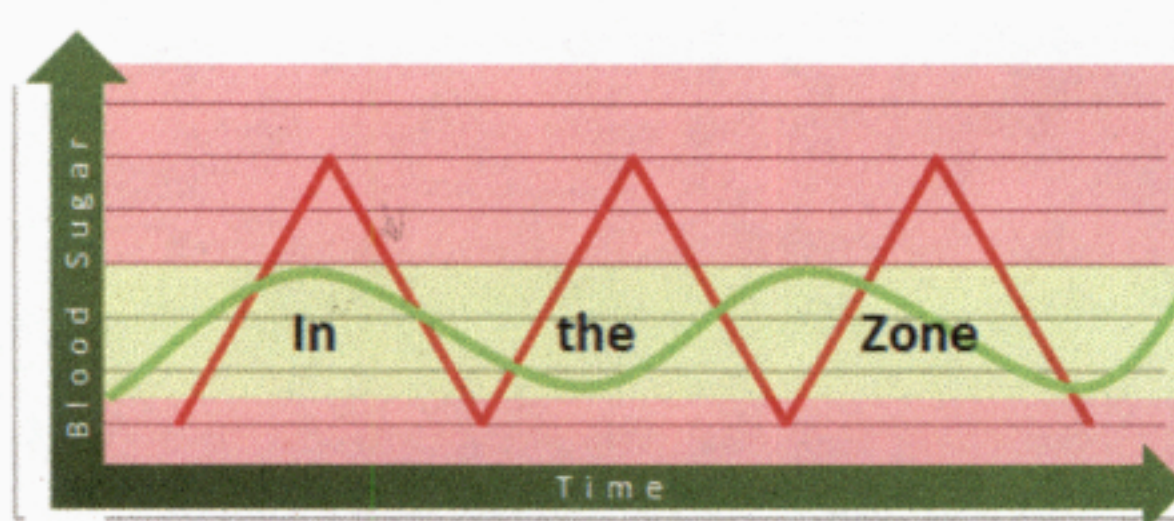
Foods that produce high levels of blood sugar are called high glycemic index (GI) foods. When your diet consists predominantly of these foods, your body responds by producing higher levels of insulin. When insulin levels are high, your body not only converts blood sugar into energy, but also stores extra energy as fat. Thus, when insulin levels are high, you store more fat; when insulin levels are normal, you burn fat more efficiently.

A diet that contains high GI foods can lead to cravings for carbohydrates and an overall increase in appetite possibly resulting in unwanted weight gain. These foods can cause large fluctuations of both blood sugar and insulin levels, leading to a cycle of overeating and inflammation. Remember, if you eat low glycemic, you can keep your blood sugar 'In The Zone'. This helps your body burn fat which ultimately reduces inflammation and lowers your risk of obesity, insulin resistance, and diabetes.



KEY POINTS

- High glycemic foods trigger Insulin Alarms
- High Insulin leads to Fat Storage
- Long-term High Insulin linked to Insulin Resistance
- Insulin Resistance can lead to Type 2 Diabetes



KEY POINTS

- Fat Burning Zone is Healthy
- LESS fat gain
- MORE fat loss
- Less Insulin Resistance, Diabetes & Inflammation

BURN FAT
to Reduce Inflammation

Tips for Success:

- Reduce or stop sugary or diet drinks
- Rid your home or office of unhealthy 'distractions'
- Eat more healthy proteins and veggies
- EAT LOW GLYCEMIC FOODS
- DRINK WATER

- ⊙ Don't overeat 'good' calories (they are still calories that add up)
- ⊙ Graze all day (6 small meals)
 - Don't starve
 - Don't eat too late
- ⊙ Don't rush into this
 - Make a plan to change something
 - Make it challenging for YOU
 - Choose it wisely
 - Make it ATTAINABLE
- ⊙ Mark your start date on the calendar
 - Start within 1 week
 - When the date comes...
 - Write down your goals
 - STICK TO IT!
- ⊙ Know that this time, you can do it!



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**Glycemic
Index Food
List**

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Category	Low Glycemic <55	Medium Glycemic 56-69	High Glycemic >70
Meat, Fish, Poultry & Meat Alternatives	Beef Chicken Eggs & egg whites Fish Lamb Pork Tofu Turkey Veggie burger		
Dairy & Dairy Alternatives	Almond milk (unsweetened) Cheese (lowfat) Coconut milk (unsweetened) Cottage cheese (lowfat) Cow's milk (lowfat) Greek yogurt (plain) Ice cream (premium & lowfat) Oat milk (unsweetened) Soy milk (unsweetened) Yogurt (plain or sugar-free)		
Beans, Breads, Grains & Cereals	<u>Beans:</u> Baked beans (sugar-free) Beans (black, garbanzo, kidney, lentil, lima, mung, pinto, etc) Hummus Peas (green & black-eyed) <u>Bread:</u> 100% whole wheat Pita, whole wheat Pumpnickel Sourdough	<u>Grains:</u> Bean thread noodles Buckwheat noodles Cornmeal Couscous Rice, white Pancakes Taco shell <u>Cereal:</u> Bran Chex	<u>Grains:</u> Millet Rice, Japanese sticky Rice, wild Waffles <u>Bread:</u> Bagel Baguette White bread White rolls

	Stone ground whole wheat <u>Grains:</u> Barley (pearled or hulled) Bran (oat, rice, wheat) Buckwheat Bulgar wheat Egg noodles Pasta (plain, high protein, whole wheat) Brown rice Quinoa Rye Udon noodles <u>Cereal:</u> All-bran Bran Buds Kashi Go Lean (red & white box) Steel cut oats	Cream of wheat, cooked Granola, sugar-free Muesli, sugar-free Oats, quick or old fashion Puffed wheat Raisin Bran Shredded Wheat Special K	<u>Cereal:</u> Bran flakes Cheerios Cornflakes Cream of wheat, instant Golden Grahams Grape Nuts Oats, instant Rice Krispies Wheetabix NOTE: All white flour products have higher GI, so try to avoid them
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Category	Low Glycemic <55	Medium Glycemic 56-69	High Glycemic >70
Fruits	Apples (fresh or dried) Apricots (dried) Banana (less ripe, no spots) Berries (blueberries, strawberries, raspberries, blackberries, etc) Cherries Grapes Grapefruit Guava Honeydew Kiwi Kumquats Lemon Lychee Mandarin oranges Mango Nectarine Orange Peach Pear Plum Pomegranate	Apricots (fresh) Breadfruit Cantaloupe Currants Figs Papaya Pineapple Raisins	Dates Watermelon
Vegetables	Artichokes Arugula Asparagus Avocado Bok choy Broccoli Brussels sprouts Cabbage (red or green) Cauliflower Celery Cucumbers Eggplant Endive Green beans	Acorn squash Beets Butternut squash Corn (fresh/frozen) Carrots (cooked) French fries* Mashed potato New potato Potato chips Sweet potato Taro	Baking potato Carrots (raw) Idaho potato Parsnip Pumpkin

Category	Low Glycemic <55	Medium Glycemic 56-69	High Glycemic >70
Snacks, Nuts, Chips, etc.	Nuts/seeds: Cashews Dark chocolate (70% and higher) Hazelnuts Peanuts Pinenuts Pumpkin seeds Sesame seeds Sunflower seeds Walnuts	Popcorn	Corn chips Jelly beans Pretzels
Sweeteners	<u>Natural sweeteners:</u> Agave nectar (organic) Brown rice syrup Fructose (fruit sugar) Lactose (milk sugar) Maple syrup, 100% pure Stevia (Truvia™, PureVida™) Xylitol Erythritol <u>Artificial sweeteners:</u> (not recommended) Sucralose (Splenda™) Aspartame (Equal™, NutriSweet™)	Honey	Cane sugar Corn syrup High fructose corn syrup* Sucrose (table sugar)

***Not recommended as part of a healthy diet**

	<div>Greens (collard, kale, turnip, mustard)</div> <div>Herbs (parsley, basil, dill, oregano, etc)</div> <div>Jicama</div> <div>Lettuce (all types)</div> <div>Mushrooms</div> <div>Okra</div> <div>Onion/garlic/leek/shallot</div> <div>Peppers (bell, jalapeno, pablano, etc)</div> <div>Snow peas/snap peas</div> <div>Spinach</div> <div>Squash (zucchini, yellow, spaghetti)</div> <div>Tomato (incl. juice, paste, soup)</div> <div>Vegetable juice (low sodium)</div> <div>Water chestnuts</div> <div>Watercress</div>		
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***Not recommended as part of a healthy diet**



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Protecting
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**Making
Exercise
Part of Your
New
Lifestyle**

Now that you're on the path to a new, healthier you, here are five simple steps to get moving!

Starting a fitness program may be one of the best things you can do for your health. Physical activity reduces your risk of chronic diseases like diabetes, heart disease, arthritis and more. Additionally, moderate and consistent exercise can improve your balance and coordination, help you sleep better, manage your weight and improve your self-esteem. You can get started in just five simple steps, but be sure your physician clears you to get going.

Step 1: Determine your level of fitness

You probably have some idea of how fit you are. But assessing and recording baseline fitness scores can give you benchmarks against which to measure your progress. To assess your aerobic and muscular fitness, flexibility and body composition, consider recording:

- Your pulse before and after you walk 1 mile
- How long it takes you to walk 1 mile
- How many push-ups you can do in one session
- How many sit-ups you can do at one sitting
- How far you can reach forward while seated on the floor with your legs extended in front

Step 2: Design your fitness program

It's easy to say that you'll exercise every day. But you'll need a plan. As you design your fitness program, keep these points in mind:

- **Know yourself:** Are you starting a fitness program to help lose weight? Or do you have another motivation, such as preparing for a marathon? Having clear goals can help you gauge your progress. Also, know what type of environment you do best in.

Some people love the gym or group fitness environment while others prefer to 'walk alone' or use video workouts.

- **Set your goal:** Most adults should aim for at least 150 minutes of moderate-intensity aerobic activity — or 75 minutes of vigorous aerobic activity — a week. Adults also need two or more days of strength training a week.
- **Ease in:** Work with your physician to gauge what level to start. Then, gradually increase your exercise intensity, strength and endurance. Then start cautiously and progress slowly. If you have an injury or a medical condition, consult your physician or a physical therapist for help designing a fitness program that best suits your needs
- **Book it!** Finding time to exercise can be a challenge – it's the main reason people avoid exercise. Truth is, you just need to prioritize and schedule it. That's right, we suggest you schedule time to exercise as you would any other appointment. Other ideas include watching your favorite show while walking on the treadmill, read while riding a stationary bike, or listen to books on your digital audio device while walking outdoors. A great song list can really help pass the time during a strength training workout.

- **Crosstrain:** To keep you and your muscles from getting bored, change it up! (Cross-training also reduces your chances of injuring or overusing one specific muscle or joint.) Plan to alternate among activities that emphasize different parts of your body, such as walking, swimming, strength training and yoga.
- **Pace yourself:** Many people start an exercise program in a frenzy — working out too long or too intensely — and give up when their muscles and joints become sore or injured. Alternate cardio and strength training to build muscle mass, not injure it. Rest and recovery are essential.
- **Share it:** Tell your exercise plan to friends and family. Ask them to assist with your motivation and keep you going. But this plan goes both ways...don't get upset with your loved ones when they try to motivate you. Also, a shared, written plan can also encourage you to stay on track. When you share any exercise goals, you're more likely to stick with it.

Step 3: Prepare your equipment

If you're planning to join a gym facility, this step is pretty easy. Visit more than one establishment and find your best fit. If you're interested in exercise classes, make sure their schedule works for you. Ask about their busy times and determine if it matches your schedule. Also, many gyms include one or two personal training sessions to get you acquainted with the machines or the types of exercises you should expect in a class.

Fitness videos are also another popular way to fit exercise into your daily life without leaving home. Choose videos that provide exercise at your level, not too far above, as injury may occur. Consider trying something new...who knows, you just might love Zumba™. You may also need new athletic shoes. Be sure to pick shoes designed for the activity you have in mind.

If you're planning to invest in exercise equipment, choose something that's practical, enjoyable and easy to use. Consider checking out certain types of equipment at a fitness center before investing in your own equipment. To stretch your exercise dollars, consider buying used equipment – most often you'll get very good quality for the money.

Step 4: Get started

Now you're ready for action. As you begin your fitness program, keep these tips in mind:

- **Easy does it:** Give yourself plenty of time to warm up and cool down with easy walking or gentle stretching. Then speed up to a pace you can continue for five to 10 minutes without getting overly tired. As your stamina improves, gradually increase the amount of time you exercise. Work your way up to 30 to 60 minutes of exercise most days of the week.
- **Work out in small doses:** You don't have to do all your exercise at one time. Shorter but more-frequent sessions have aerobic benefits, too. Fifteen minutes of exercise a couple of times a day may fit into your schedule better than a single 30-minute session.
- **Get your creative juices flowing:** Maybe your workout routine includes various activities, such as walking, bicycling or rowing. But don't stop there. Take a weekend hike with your family or spend an evening ballroom dancing.
- **Honor your body.** If you feel pain, shortness of breath, dizziness or nausea, you may be pushing yourself too hard. Be sure to notify your physician if any concerning symptoms occur.
- **Be flexible.** If you're really overwhelmed or too sore, give yourself permission to take a day or two off. Just know that you'll start back right where you left off.

Step 5: Monitor your progress

Repeat your personal fitness assessment six weeks after you start your program and then again every three to six months. You may notice that you need to increase the amount of time you exercise or increase the amount of weight you work with in order to continue improving. Or you may be pleasantly surprised to find that you're exercising just the right amount to meet your fitness goals.

If you lose motivation, set new goals or try a new activity. Exercising with a friend or taking a class at a fitness center may be just what it takes.

Starting an exercise program is an important decision. But it doesn't have to be an overwhelming one. By planning carefully and pacing yourself, you can establish a healthy habit that lasts a lifetime.

BODY MASS INDEX (BMI)

		The higher your BMI, the higher your health risk																								
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
← HEALTHY →						← OVERWEIGHT →						← OBESE →														
Height [ft/in(m)]	Weight (lbs)																									
4' 10" (58")	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167	172	177	181	186	191	196	201	205	210
4' 11" (59")	96	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
5' 0" (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
5' 1" (61")	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185	190	195	201	216	211	217	222	227	232
5' 2" (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
5' 3" (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
5' 4" (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
5' 5" (65")	114	120	126	132	138	144	150	156	162	169	174	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264
5' 6" (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
5' 7" (67")	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223	230	236	242	249	255	261	268	274	280
5' 8" (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
5' 9" (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
5' 10" (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
5' 11" (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
6' 0" (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
6' 1" (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
6' 2" (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
6' 3" (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
6' 4" (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

Chart adapted from The National Institutes for Health Web site, Body Mass Index Table page: http://www.nhlbi.nih.gov/guidelines/obesity/bmi_tol.htm.



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**Calculating
Target Heart
Rate and
Exercise
Planning**

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For many, the challenge to getting adequate cardiovascular exercise is just knowing how much is enough. In order to determine if your level of aerobic exercise is adequate, you must keep your heart rate (beats per minute) above 50% of your maximum heart rate for at least 30 minutes at a time. Doing so can achieve the same cardiovascular benefits as with vigorous aerobic exercise.

Calculate:

Maximum Heart Rate (220 – your age)bpm X .5 = Target Lower End

Maximum Heart Rate (220 – your age)bpm X .8 = Target Upper End

For example, the maximum heart rate for a 40 year old = 180 beats per minute (220 minus 40). Thus, this 40 year old has a cardiovascular exercise target range of 90 to 144 beats per minute (180 x .5) lower end and (180 x .8) upper end.

Your heart rate can be measured at the wrist or neck by placing your index and middle fingers along the inside of your wrist below your thumb or along the side of your neck about two centimeters in front of your jaw. Apply very mild pressure. The easiest way to determine your heart rate is to count the number of beats in 6 seconds and add a zero. *For example, if you count 7 beats in 6 seconds, your heart rate would be 70 beats per minute (bpm).*

Looking for ways to get that heart pumping? Look no further. Here is a list of common exercises and the number of calories burned when performing each exercise for 1 hour.

Activity	<u>Weight of the Person & Calories Burned</u>		
	160 lbs	200 lbs	240 lbs
Aerobics, high impact	533	664	796
Aerobics, low impact	365	455	545
Aerobics, water	402	501	600
Baseball or softball	365	455	545
Basketball game	584	728	872
Bicycling	292	364	436
Bowling	219	273	327
Canoeing	256	319	382

Football	584	728	872
Golfing (carrying clubs)	314	391	469
Hiking	438	546	654
Racquetball	511	637	763
Resistance (weight) training	365	455	545
Rollerblading	548	683	818
Rope jumping	861	1,074	1,286
Rowing	438	546	654
Running 5 mph	606	755	905
Running 8 mph	861	1,074	1,286
Skiing, water	438	546	654
Stair stepper	657	819	981
Swimming laps	423	528	632
Tai kwon do	752	937	1,123
Tennis, singles	584	728	872
Volleyball	292	364	436
Walking 2 mph	204	255	305
Walking 3.5 mph	314	391	469

**Adapted from: Ainsworth BE, et al. 2011 compendium of physical activities: A second update of codes and MET values. Medicine & Science in Sports & Exercise. 2011;43:1575.

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