



MODULE 5 – SOLUTIONS HANDOUT

Perfect Fitness

FIRST, A WORD OF CAUTION: Please obtain "**medical clearance**" if you have been inactive, and are over 45 or have cardiac risk factors such as obesity, high blood pressure, high cholesterol, a strong family history of heart disease, or smoking which you should have stopped by now!

WEBINAR SUMMARY:

We hope you enjoyed the "Perfect Fitness" Webinar and are inspired to get out there and get fit, or stay fit, in a manner that YOU will find enjoyable.

That's the key - no one is going to keep doing something they regard as "torture" and there IS a way to make fitness fun. Let's review:

CARDIOVASCULAR FITNESS

This is the ability of the heart and lungs to supply oxygen-rich blood to the working muscle tissues and the ability of the muscles to use oxygen to produce energy for movement.

For this to occur such that, not only fitness but endurance develops, someone needs to perform aerobic and some anaerobic training. This is called interval training which we will get to after discussing basic **moderate intensity cardio training** vs **high intensity interval training**.

Cardiovascular exercise boosts your immune system, helps you sleep, decreases your stress, improves cognitive powers and helps prevent Alzheimer's, helps prevent diabetes, heart disease and more so, of course this need to be "part of your life".

PICK YOUR ACTIVITY CORRECTLY!

If you love running, then that is your main "cardio" activity. If you love group exercise classes, then THAT's for you.

Those two would be "**higher intensity**" for the most part, as would doing cardio gym equipment, or other outdoor sports such as cycling at a high intensity level which will be described below.

If you are doing sports recreationally such as paddle-boarding or horseback riding, then there's part of your week's cardio accounted for. If you have a dog, that dog needs to be walked, so that's one of your activities (this one would be classified as "**moderate intensity**" workout). And so forth and so on.

There **MUST** be something you can do that you don't hate doing, isn't there? Perhaps you and your spouse can go for walks together to stir up a little romance?

Your fitness level needs to be such that, at the very least, you can climb stairs without getting short of breath. We're not talking about the Empire State Building here, just a few flights.

You can accomplish this in several ways:

1. **Vigorous or high intensity activity**
2. **Moderate intensity training**
3. **High Intensity Interval training as a part of your workout or as a separate activity**
4. **Strength training (if done as circuit training)**

HEART RATE

First, let's begin by defining a few terms related to heart rate:

- **"MAXIMUM HEART RATE"**: This is the highest heart rate that you can achieve without severe problems through exercise stress. This rate decreases with age. Obviously, the actual number varies with each person based on their specific health condition.

For a normal, healthy individual, the nominal value can be calculated as follow:

Calculation: Take 220 & subtract your age = **"MAXIMUM HEART RATE"**

- **"TARGET HEART RATE"**: This is the heart rate (usually a range), that you need to maintain during exercise based on the training program you are doing. This will be defined within the specific program.

POP QUIZ! : What is YOUR **Maximum Heart Rate**?

BORG SCALES

The majority of training programs use a "**Target Heart Rate**" to define the effort that should be maintained during the various routines in order to achieve the desired fitness goal.

Since everyone is at a different level of fitness, there needs to be a practical and easy way to correlate the level of effort to the "**Target Heart Rate**".

Probably the most popular method that is used in most fitness program today, is to refer to the **RPE value** based on "**Borg Scales**". These scales, along with the concept of the **RPE** (Rate of Perceived Exertion), were invented in the 1960's by a Swedish Doctor named Gunnar Borg, PhD, M.D.

Dr. Borg knew that lab equipment could measure the intensity of exercise (the level of effort), but he created his scales so that people could accurately estimate this intensity (or effort) for themselves, without the need to do it in a fancy laboratory environment.

Experience has shown time and again that the **RPE** values are very accurate and reliable for use in fitness training programs. This is why you will continually hear about **RPE** values in fitness programs.

The two most popular Borg scales are the **10-Point Borg Scale** and the **20-Point Borg Scale**.

Some programs use the 10 Point Scale, while some others use the 20 Point Scale.

This is why we are including both here for reference purposes.

10 Point Borg Scale		
RPE Rate of Perceived Exertion		
POINT	EFFORT	√
0	Rest	
1	Really Easy	
2	Easy	
3	Moderate	
4	Sort of Hard	
5	Hard	
6		
7	Really Hard	
8		
9	Really, Really Hard	
10	Maximal: As Hard as Possible	

Source: Gunnar Borg, PhD, M.D.

20 Point Borg Scale				
RPE Rate of Perceived Exertion				
POINT	EFFORT	DESCRIPTION	% OF MAXIMUM HEART RATE	√
6	No Exertion	Little to no movement, very relaxed	20%	
7	Extremely Light	Able to maintain pace	30%	
8			40%	
9	Very Light	Comfortable and breathing harder	50%	
10			55%	
11	Light	Minimal sweating, can talk easily	60%	
12			65%	
13	Somewhat Hard	Slight breathlessness, can talk	70%	
14		Increased sweating, still able to hold conversation but with difficulty	75%	
15	Hard	Sweating, able to push and still maintain proper form	80%	
16			85%	
17	Very Hard	Can keep a fast pace for a short time period	90%	
18			95%	
19	Extremely Hard	Difficulty breathing, near muscle exhaustion	100%	
20	Maximally Hard	STOP exercising, total exhaustion		

Source: Gunnar Borg, PhD, M.D.

NOTES about RPE values when using the **20 Point** Borg scale:

- **RPE 11 (60% of Max Heart Rate): THIS IS WHERE YOU WILL START FOR ALL ACTIVITY IF YOU ARE A BEGINNER**
- **RPE 13 (70% of Max Heart Rate): THIS IS THE PEAK EFFORT FOR "MODERATE ACTIVITY"**
- **RPE 15 (80% of Max Heart Rate): THIS IS THE PEAK EFFORT FOR VIGOROUS ACTIVITY and note that you "stretch" briefly beyond this limit when you do HIIT.**

FITNESS TRAINING PROGRAMS

1. Moderate intensity training:

Take 220 - subtract your age - multiply by 0.6. Do this again but multiply by 0.7 this time. These 2 numbers give you the range within which your heart rate needs to remain during moderate intensity training.

This is your "**Target Heart Rate**" range which can be tracked on a simple armband monitor or on most pieces of exercise equipment until you learn what the intensity "feels like".

This is easily achieved by walking at a brisk pace, swimming, or using "cardio machines" at a slower pace.

Now, if you are a beginner, you always need to start out aiming for a lower target heart rate. The easiest way to do that is by using the appropriate Borg scale of **RPE** (Rate of Perceived Exertion) above, to correlate your target heart rate to your effort.

The recommended time to spend doing this is a minimum of a cumulative 150 minutes per week (per the **U.S. Centers for Disease Control and Prevention**).

However, the **American College of Sports Medicine** guidelines calls for 15-60 minutes per day, 6 days a week for those doing moderate intensity training. Recent studies show that even 10 minutes of exercise "count" towards your daily total, and bouts of HIIT also "count." We might well find out that we need less cardio than predicted; but keep moving at this pace until we're sure.

If you are doing moderate intensity training you can also use the Borg scale above instead.

We, at AgeWellSolutions, feel that if you are doing only **Moderate Activity**, you might need a good 45 minutes, 6 days per week. This is a cumulative 270 minutes per week. However, as stated above, this might soon be modified. At the very least, if you do a "bout" of HIIT (6 minutes total) during the day, this probably knocks off a good 10 minutes or so of your requirements; maybe more!

If you are doing **Vigorous Activity** however, you only probably need approximately 30 minutes 5 days per week. If 6 minutes of that vigorous activity includes your 6 minutes of HIIT, you can probably reduce down to 20 minutes. If you are doing a "**Combo**" which includes team sports or solo recreational sports, you can add those times in and average it all out.

A "bout" of a solo sport or a game or team sport will count as one and sometimes two of those 30-45 minute slots, depending on how vigorous it is which you will learn to judge with your RPE.

Riding horseback with the horse walking is moderate at most while playing polo is vigorous, get it?

2. **Vigorous or high intensity activity:**

Take 220 - subtract your age - multiply by 0.8. THAT's your "**target heart rate**"

To check your math: if you are 60, that's $220 - 60 = 160 \times 0.8 = 128$. Got it?

Per the **US Center for Disease Control and Prevention**, you need a minimum of 75 cumulative minutes of this activity weekly. However, we suggest that the time parameters from the **American College of Sports Medicine** be followed for ALL **vigorous activity**.

This means that you should aim for a cumulative 150 minutes per week which again, works out to 30 minutes, 5x weekly.

3. High Intensity Interval Training:

To maximize cardiovascular endurance, brain health and mitochondrial health we suggest some high intensity interval training; HIIT.

This means you go up to 85%-90% of your maximal heart rate, (RPE 16 - RPE 17 on the Borg 20 point scale or a 8-9 on the 10 point scale), during your workout sessions at brief intervals (anaerobic training).

Of course we start you out MUCH easier!

Here's an example of a beginner treadmill workout based on the **10 Point Borg scale**:

Phase	Time	Routine	RPE (10PT)
Warm up	5 Minutes	Warm Up at an easy pace	3-4
Rest Set	3 Minutes	Increase speed from warm up and increase incline 1%. Keep a moderate pace.	5
Work Set	1 Minute	Increase incline 1-3% to raise the intensity level. You should be working harder!	6
Rest Set	3 Minutes	Decrease speed and incline to lower your heart rate back to a comfortable level	5
Work Set	1 Minute	Increase speed 3-5 increments and increase incline 1-2% to raise intensity.	6
Rest Set	3 Minutes	Decrease speed and incline to lower your heart rate back to a comfortable level	5
Cool down	5 Minutes	Decrease speed/incline to lower your heart rate back to a comfortable level and cool down	3-5
	Total Workout Time: 21 Minutes		

And here's an example of a LEVEL 3 treadmill interval training workout based on the **10 Point Borg scale**: and note that interval training is incorporated in this one.

Time	Routine	RPE (10PT)
5 Min.	Warm Up at an easy pace	4
3 Min.	Rest Set: Increase speed so that you're working at a moderate pace	5
1 Min.	Work Set: Increase incline/resistance so that you're working very hard	8
3 Min.	Rest Set: Back to Baseline	5
1 Min	Work Set: Increase both speed and incline/resistance so that you're working very hard.	8
3 Min.	Rest Set: Back to Baseline	5
1 Min.	Work Set: Increase speed so that you're working very hard	8
3 Min.	Rest Set: Back to Baseline	5
1 Min.	Work Set: Increase incline/resistance so that you're working very hard	8
3 Min.	Rest Set: Back to Baseline	5
1 Min.	Work Set: Increase both speed and incline/resistance so that you're working very hard	8
5 Min.	Cool down by walking at a comfortable pace	4
	Total Workout Time: 30 Minutes	

You get the idea? We're asking you to get "out of your comfort zone" for a minute at a time at regular intervals during your workout anywhere from 3 to 6 times during your workout. Other ways to do HIIT can be found in the article on this solutions page. It is generally accepted that 5-6 one minute bouts of HIIT are "the way to go"; whether alone or at the beginning or end of your workout. I personally like to do my HIIT first, and then slow down to a less vigorous pace.

4. Strength training:

As we've mentioned, we lose at least 30 % of our muscle mass by age 70, unless we do **Strength Training** on a regular basis. This is why it is so important to develop the habit for the long haul.

Strength Training is required to maintain a good muscle to fat ratio, keep up your metabolic rate, strengthen your bones, and just plain look better!

It will also "count" as a cardio workout (now you're listening), **if** done as a "**Circuit Training**" routine. My exact "quick and easy" workout that is done in the gym can be found as an article link on this solutions page.

An enormous variety of regimens are accepted by the **American College of Sports Medicine**.

Here are the "classical" recommendations you might be familiar with:

- 1) Find the maximal amount of weight for a "body part" (for instance "chest") you can lift once. Perform 8-12 repetitions at 40-80% of that max weight for each major muscle group (depending on the training level of the participant).
- 2) Two to three minutes rest between "sets" (8-12 reps = one set)
- 3) Two to four sets are recommended for each muscle group.

All traditionally done with gym machines, dumbbells, or bars.

It is our experience that people shun or stop a weight training program because the routine just plain takes too long.

Or they don't start simply because they don't want to go to a gym, and they don't know WHERE to start... or they work out so hard, it hurts too much and that's a turnoff of course.

Here's where you can get a good strength training workout so choose one RIGHT NOW:

- At home:
 - Using a good, professional "band-type" system.
 - Using calisthenics.
 - Using dumbbells.
 - Please find blog articles in this website to give you some routines if this interests you.
- In the Gym:
 - Using gym machines or dumbbells, with or without a personal trainer

5. **Stretching/Flexibility Training and Balance-training made easy!** :

Most people don't think about this until they start to age and "stiffen up".

The purpose of staying flexible is to avoid injuries (now AND later), but also to be able to continue doing simple daily activities we take for granted, such as tying one's shoes and putting on a necklace when we're older.

After a 5 minute warm-up with cardio or light strength training, it's time to stretch out for 10 minutes 2x a week.

In your "**Additional Handouts**" section we have supplied you with total body stretches.

6. **Supplements**

For those of you who are looking to put on muscle mass, there are indeed some supplements which have been studied and found to help. My ultimate guide to weight training supplementation is found on this solutions page as an article link. Supplements are found in the fitness and bodybuilding portion of the e-store.

We sure hope you are inspired to get a full fitness routine firmly in place for life.

Between the last module and this one, we hope you are well on your way to transforming your body to the one you will truly love because it will be strong, and well-functioning - not just beautiful.

You'll know by looking at yourself, that you are becoming healthier by the month!

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We look forward to seeing you go through Module 6, where you will learn all about the hidden toxins which cause disease and aging. They are everywhere and must be gotten rid of.

We will tell you things that will absolutely shock you and make you very glad you are on board with us because YOUR health is so very important to us.

Best Wishes for your Life and Health,

Kim Crawford, M.D., and the drkimsagewellsolutions.com team.