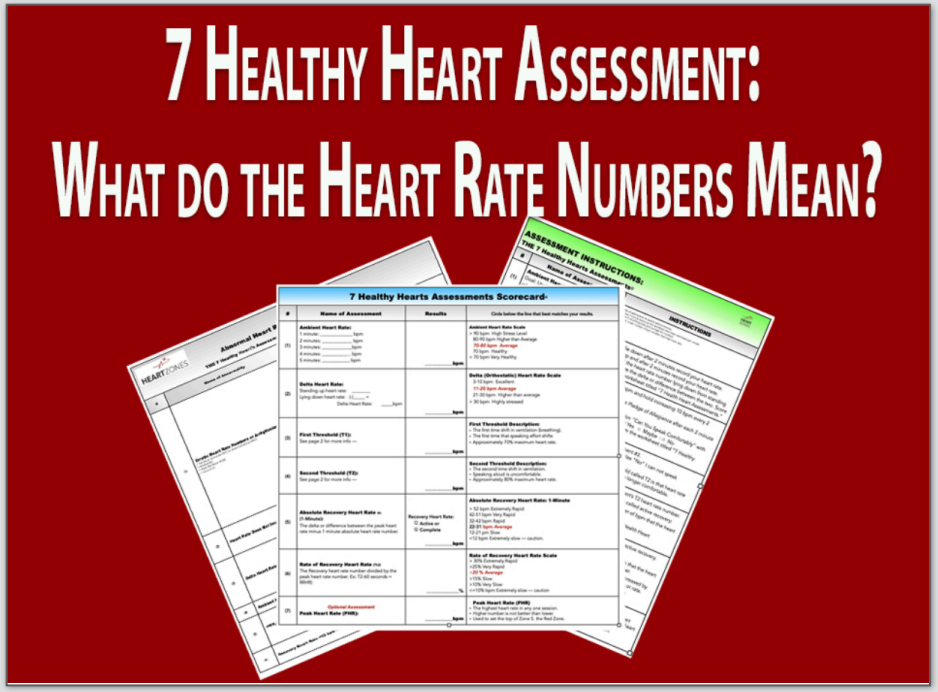
Heart Zones

7 Healthy Heart Assessments Workshop



Today's Date:
Joe Gooden, Vice President
Heart Zones
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Joe.Gooden@heartzones.com

HEART ZONES

Heart Zones

7 Healthy Heart Assessments

Learning Intentions

I can explain what the numbers mean.

I am able to implement the 7 Healthy Heart Assessments with my students.

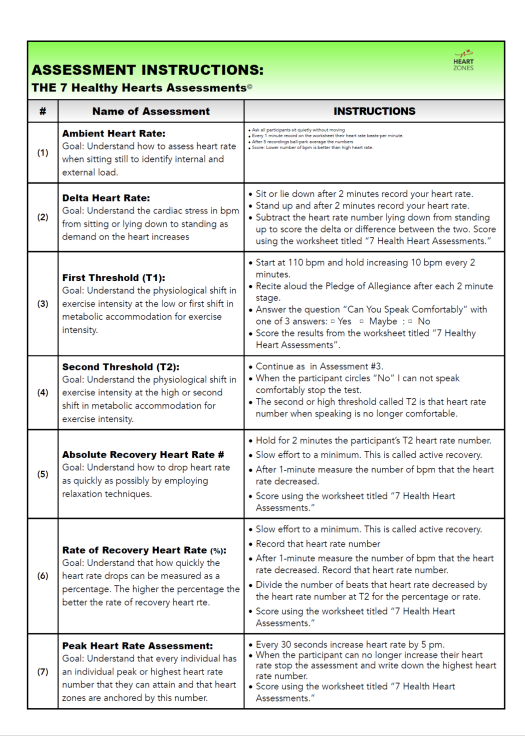
I understand the reason why it is important to assess heart health.

HEART ZONES

Heart Zones

7 Healthy Heart Assessments

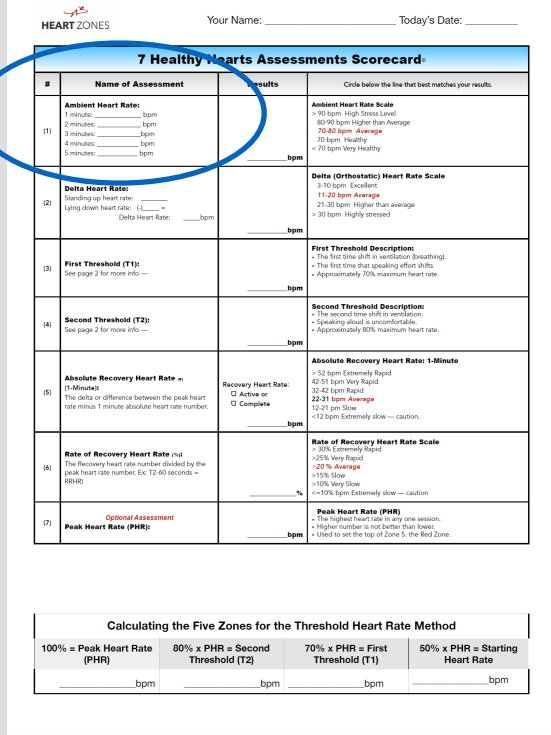
Presentation Worksheets



ASSESSMENT INSTRUCTIONS:
THE 7 Healthy Hearts Assessments©

#	Name of Assessment	INSTRUCTIONS
(1)	**Ambient Heart Rate:** Goal: Understand how to assess heart rate when sitting still to identify internal and external load.	• Ask all participants sit quietly without moving • Every 1 minute record on the worksheet their heart rate beats per minute. • After 5 recordings (set/pair) average the numbers • Score: Lower number of bpm is better than high heart rate
(2)	**Delta Heart Rate:** Goal: Understand the cardiac stress in bpm from sitting or lying down to standing as demand on the heart increases	• Sit or lie down after 2 minutes record your heart rate. • Stand up and after 2 minutes record your heart rate. • Subtract the heart rate number lying down from standing up to score the delta or difference between the two. Score using the worksheet titled "7 Health Heart Assessments."
(3)	**First Threshold (T1):** Goal: Understand the physiological shift in exercise intensity at the low or first shift in metabolic accommodation for exercise intensity.	• Start at 110 bpm and hold increasing 10 bpm every 2 minutes. • Recite aloud the Pledge of Allegiance after each 2 minute stage. • Answer the question "Can You Speak Comfortably" with one of 3 answers: ☐ Yes ☐ Maybe ; ☐ No • Score the results from the worksheet titled "7 Healthy Heart Assessments".
(4)	**Second Threshold (T2):** Goal: Understand the physiological shift in exercise intensity at the high or second shift in metabolic accommodation for exercise intensity.	• Continue as in Assessment #3. • When the participant circles "No" I can not speak comfortably stop the test. • The second or high threshold called T2 is that heart rate number when speaking is no longer comfortable.
(5)	**Absolute Recovery Heart Rate #** Goal: Understand how to drop heart rate as quickly as possibly by employing relaxation techniques.	• Hold for 2 minutes the participant's T2 heart rate number. • Slow effort to a minimum. This is called active recovery. • After 1-minute measure the number of bpm that the heart rate decreased. • Score using the worksheet titled "7 Health Heart Assessments."
(6)	**Rate of Recovery Heart Rate (%):** Goal: Understand that how quickly the heart rate drops can be measured as a percentage. The higher the percentage the better the rate of recovery heart rte.	• Slow effort to a minimum. This is called active recovery. • Record that heart rate number • After 1-minute measure the number of bpm that the heart rate decreased. Record that heart rate number. • Divide the number of beats that heart rate decreased by the heart rate number at T2 for the percentage or rate. • Score using the worksheet titled "7 Health Heart Assessments."
(7)	**Peak Heart Rate Assessment:** Goal: Understand that every individual has an individual peak or highest heart rate number that they can attain and that heart zones are anchored by this number.	• Every 30 seconds increase heart rate by 5 pm. • When the participant can no longer increase their heart rate stop the assessment and write down the highest heart rate number. • Score using the worksheet titled "7 Health Heart Assessments."

ASSESSMENT INSTRUCTIONS



HEART ZONES Your Name: _____ Today's Date: _____

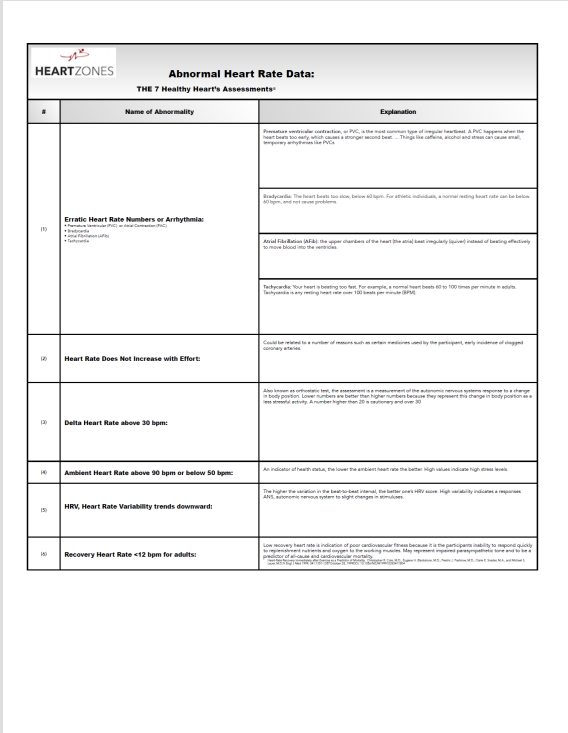
7 Healthy Hearts Assessments Scorecard©

#	Name of Assessment	Results	Circle below the line that best matches your results.
(1)	**Ambient Heart Rate:** 1 minute: _____ bpm 2 minutes: _____ bpm 3 minutes: _____ bpm 4 minutes: _____ bpm 5 minutes: _____ bpm	_____bpm	**Ambient Heart Rate Scale** > 90 bpm High Stress Level 80-90 bpm Higher than Average *70-80 bpm Average* 70 bpm Healthy < 70 bpm Very Healthy
(2)	**Delta Heart Rate:** Standing up heart rate: _____ Lying down heart rate: (-)_____ = Delta Heart Rate: _____bpm	_____bpm	**Delta (Orthostatic) Heart Rate Scale** 3-10 bpm Excellent *11-20 bpm Average* 21-30 bpm Higher than average > 30 bpm Highly stressed
(3)	**First Threshold (T1):** See page 2 for more info —	_____bpm	**First Threshold Description:** • The first time shift in ventilation (breathing). • The first time that speaking effort shifts • Approximately 70% maximum heart rate.
(4)	**Second Threshold (T2):** See page 2 for more info —	_____bpm	**Second Threshold Description:** • The second time shift in ventilation. • Speaking aloud is uncomfortable. • Approximately 80% maximum heart rate.
(5)	**Absolute Recovery Heart Rate #:** *(1-Minute)* The delta or difference between the peak heart rate minus 1 minute absolute heart rate number.	Recovery Heart Rate: ☐ Active or ☐ Complete _____bpm	**Absolute Recovery Heart Rate: 1-Minute** > 52 bpm Extremely Rapid 42-51 bpm Very Rapid 32-42 bpm Rapid **22-31 bpm *Average*** 12-21 pm Slow <12 bpm Extremely slow — caution.
(6)	**Rate of Recovery Heart Rate (%):** The Recovery heart rate number divided by the peak heart rate number. Ex: T2-60 seconds = RRHR)	_____%	**Rate of Recovery Heart Rate Scale** > 30% Extremely Rapid >25% Very Rapid *>20 % Average* >15% Slow >10% Very Slow <=10% bpm Extremely slow — caution
(7)	*Optional Assessment* **Peak Heart Rate (PHR):**	_____bpm	**Peak Heart Rate (PHR)** • The highest heart rate in any one session. • Higher number is not better than lower. • Used to set the top of Zone 5, the Red Zone.

Calculating the Five Zones for the Threshold Heart Rate Method

100% = Peak Heart Rate (PHR)	80% x PHR = Second Threshold (T2)	70% x PHR = First Threshold (T1)	50% x PHR = Starting Heart Rate
_____bpm	_____bpm	_____bpm	_____bpm

7 HEALTHY HEARTS ASSESSMENTS INSTRUCTIONS



HEARTZONES

Abnormal Heart Rate Data:
THE 7 Healthy Heart's Assessments©

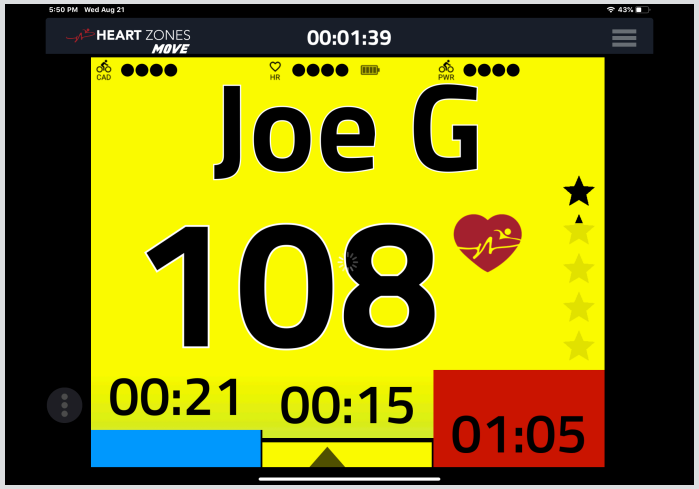
#	Name of Abnormality	Explanation
(1)	**Erratic Heart Rate Numbers or Arrhythmia:** • Premature Ventricular (PVC) or Atrial Contraction (PAC) • Bradycardia • Atrial Fibrillation (AFib) • Tachycardia	Premature ventricular contraction, or PVC, is the most common type of irregular heartbeat. A PVC happens when the heart beats too early, which causes a stronger second beat. ... Things like caffeine, alcohol and stress can cause small, temporary arrhythmias like PVCs. Bradycardia: The heart beats too slow, below 60 bpm. For athletic individuals, a normal resting heart rate can be below 40 bpm, and not cause problems. Atrial Fibrillation (AFib): the upper chambers of the heart (the atria) beat irregularly (quiver) instead of beating effectively to move blood into the ventricles. Tachycardia: Your heart is beating too fast. For example, a normal heart beats 60 to 100 times per minute in adults. Tachycardia is any resting heart rate over 100 beats per minute (BPM).
(2)	**Heart Rate Does Not Increase with Effort:**	Could be related to a number of reasons such as certain medicines used by the participant, early incidence of clogged coronary arteries.
(3)	**Delta Heart Rate above 30 bpm:**	Also known as orthostatic test, the assessment is a measurement of the autonomic nervous systems response to a change in body position. Lower numbers are better than higher numbers because they represent this change in body position as a less stressful activity. A number higher than 20 is cautionary and over 30
(4)	**Ambient Heart Rate above 90 bpm or below 50 bpm:**	An indicator of health status, the lower the ambient heart rate the better. High values indicate high stress levels.
(5)	**HRV, Heart Rate Variability trends downward:**	The higher the variation in the beat-to-beat interval, the better one's HRV score. High variability indicates a responsive ANS, autonomic nervous system to slight changes in stimulues.
(6)	**Recovery Heart Rate <12 bpm for adults:**	Low recovery heart rate is indication of poor cardiovascular fitness because it is the participants inability to respond quickly to exercise and to recover from exercise, or to quickly stop exercising muscles. May represent impaired parasympathetic tone and to be a predictor of all-cause and cardiovascular mortality.
		Heart Rate Recovery Immediately after Exercise Predict Mortality, Circulation 119: 91-7, Eugene H. Blackburn, M.D., Pedro J. Cabrera, M.D., Chris E. Dodge, M.A., and William S. Jones, M.D. May 13, 1997 Circulation 95: 1494-7 - Circulation 1997;95:1494-7

ABNORMAL HEART RATE DATA

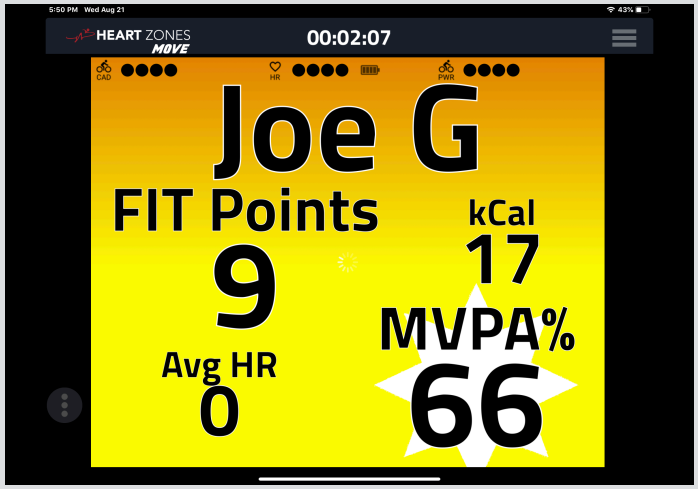
HEART ZONES

7 Healthy Heart Assessments

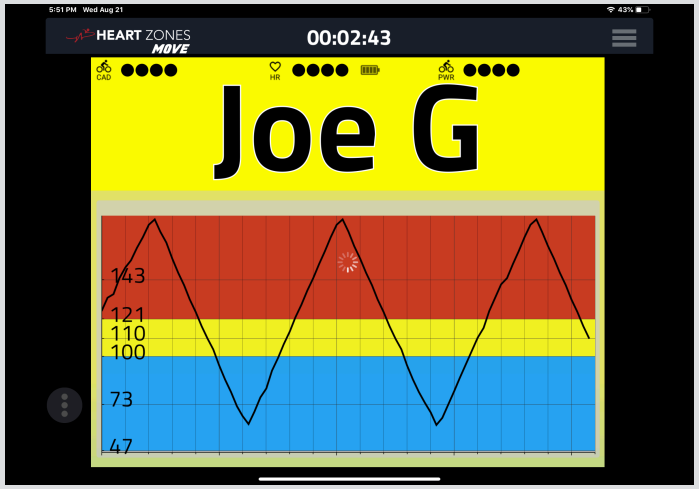
Heart Zones Move "Big Board" Tiles



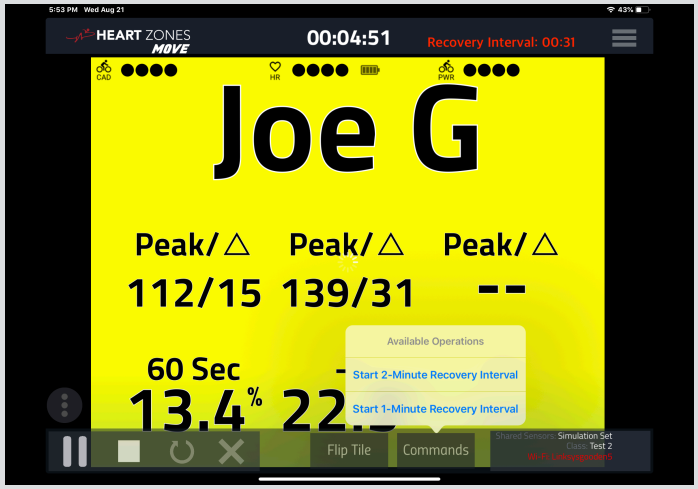
Current Data



Summary Data



Historical Data Tile

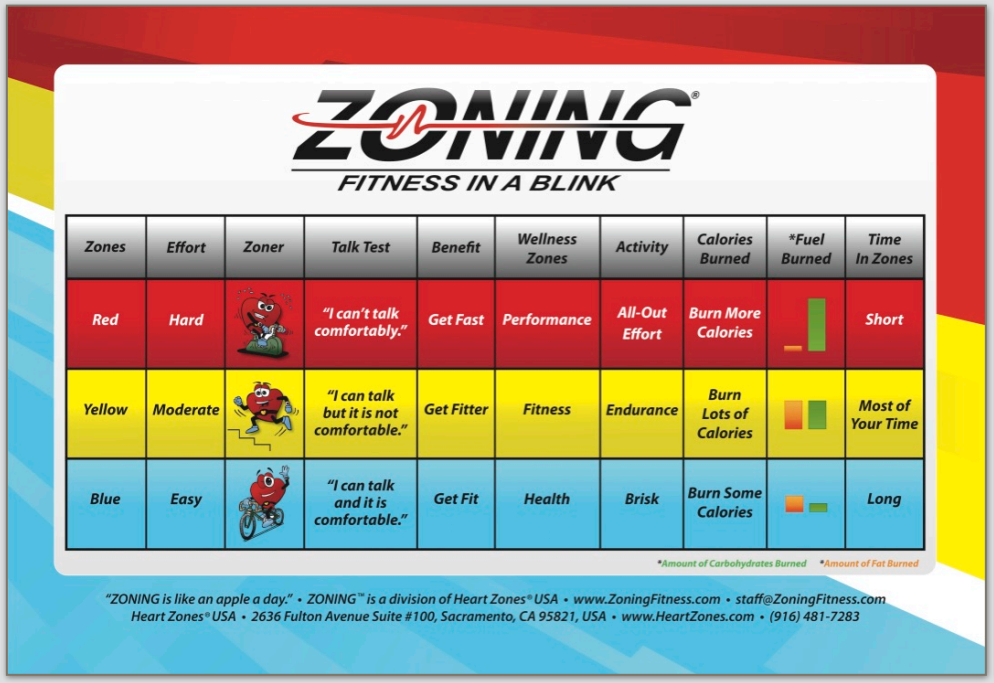


Recovery Heart Rate Tile

HEART ZONES

7 Healthy Heart Assessments

The 3 Different Methods for Setting Heart Rate Zones



ZONING®

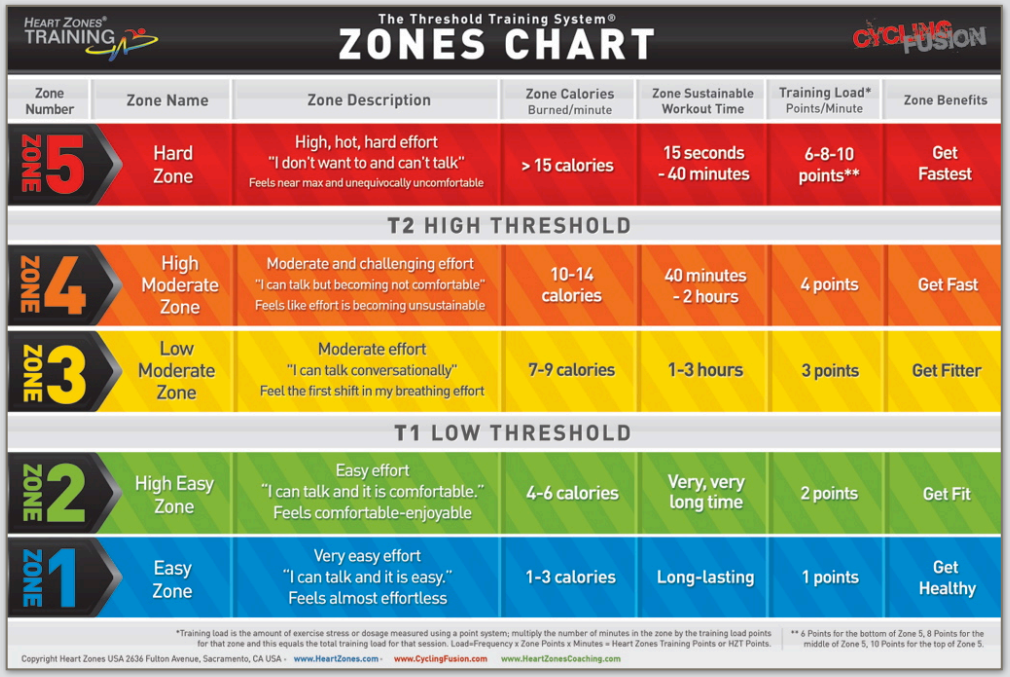
FITNESS IN A BLINK

Zones	Effort	Zoner	Talk Test	Benefit	Wellness Zones	Activity	Calories Burned	*Fuel Burned	Time In Zones
Red	Hard		"I can't talk comfortably."	Get Fast	Performance	All-Out Effort	Burn More Calories		Short
Yellow	Moderate		"I can talk but it is not comfortable."	Get Fitter	Fitness	Endurance	Burn Lots of Calories		Most of Your Time
Blue	Easy		"I can talk and it is comfortable."	Get Fit	Health	Brisk	Burn Some Calories		Long

*Amount of Carbohydrates Burned *Amount of Fat Burned

"ZONING is like an apple a day." • ZONING™ is a division of Heart Zones® USA • www.ZoningFitness.com • staff@ZoningFitness.com
Heart Zones® USA • 2636 Fulton Avenue Suite #100, Sacramento, CA 95821, USA • www.HeartZones.com • (916) 481-7283

ZONING Method



HEART ZONES® TRAINING

The Threshold Training System®

ZONES CHART

CYCLING FUSION

Zone Number	Zone Name	Zone Description	Zone Calories Burned/minute	Zone Sustainable Workout Time	Training Load* Points/Minute	Zone Benefits
ZONE 5	Hard Zone	High, hot, hard effort "I don't want to and can't talk" Feels near max and unequivocally uncomfortable	> 15 calories	15 seconds - 40 minutes	6-8-10 points**	Get Fastest
T2 HIGH THRESHOLD						
ZONE 4	High Moderate Zone	Moderate and challenging effort "I can talk but becoming not comfortable" Feels like effort is becoming unsustainable	10-14 calories	40 minutes - 2 hours	4 points	Get Fast
ZONE 3	Low Moderate Zone	Moderate effort "I can talk conversationally" Feel the first shift in my breathing effort	7-9 calories	1-3 hours	3 points	Get Fitter
T1 LOW THRESHOLD						
ZONE 2	High Easy Zone	Easy effort "I can talk and it is comfortable." Feels comfortable-enjoyable	4-6 calories	Very, very long time	2 points	Get Fit
ZONE 1	Easy Zone	Very easy effort "I can talk and it is easy." Feels almost effortless	1-3 calories	Long-lasting	1 points	Get Healthy

*Training load is the amount of exercise stress or dosage measured using a point system; multiply the number of minutes in the zone by the training load points for that zone and this equals the total training load for that session. Load-Frequency x Zone Points x Minutes = Heart Zones Training Points or HZT Points.

** 6 Points for the bottom of Zone 5, 8 Points for the middle of Zone 5, 10 Points for the top of Zone 5.

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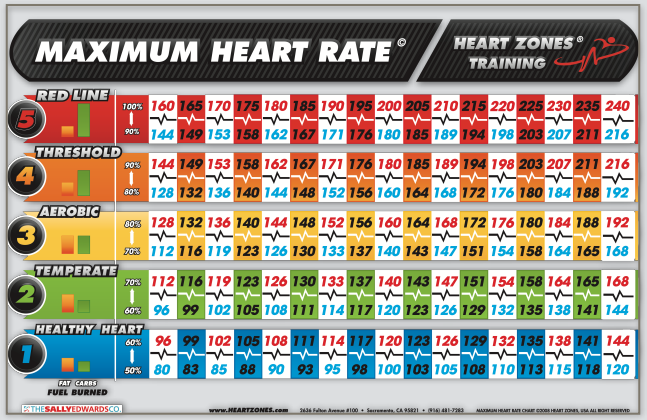
Threshold Method



MAXIMUM HEART RATE©

HEART ZONES® TRAINING

Zone																		
5 RED LINE	100%	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240
	90%	144	149	153	158	162	167	171	176	180	185	189	194	198	203	207	211	216
4 THRESHOLD	90%	144	149	153	158	162	167	171	176	180	185	189	194	198	203	207	211	216
	80%	128	132	136	140	144	148	152	156	160	164	168	172	176	180	184	188	192
3 AEROBIC	80%	128	132	136	140	144	148	152	156	160	164	168	172	176	180	184	188	192
	70%	112	116	119	123	126	130	133	137	140	143	147	151	154	158	164	165	168
2 TEMPERATE	70%	112	116	119	123	126	130	133	137	140	143	147	151	154	158	164	165	168
	60%	96	99	102	105	108	111	114	117	120	123	126	129	132	135	138	141	144
1 HEALTHY HEART	60%	96	99	102	105	108	111	114	117	120	123	126	129	132	135	138	141	144
	50%	80	83	85	88	90	93	95	98	100	103	105	108	110	113	115	118	120

FAT CARBS FUEL BURNED

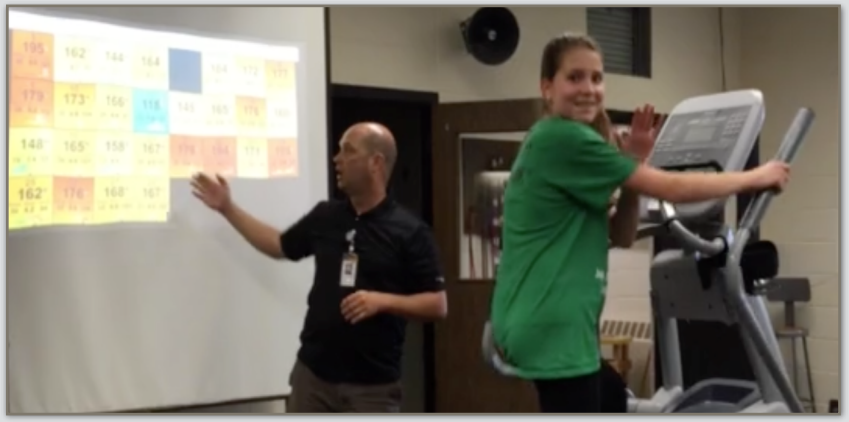
THE SALLY EDWARDS CO

www.HEARTZONES.com 2636 Fulton Avenue #100 • Sacramento, CA 95821 • (916) 481-7283 MAXIMUM HEART RATE CHART ©2008 HEART ZONES, USA ALL RIGHTS RESERVED

Maximum Heart Rate Method

7 Healthy Heart Assessments

Why is Heart Rate and Wearable Sensors Important?



Stillwater School District, MN

- True gauge of student exertion
- Students may be assessed objectively
- Accommodates individual differences among students
- **Can identify possible underlying health issues**
- Engages and motivates students using technology
- Leads students to assess their own performance
- Develops healthy decision-making
- **Quantifies moderate to vigorous physical activity (MVPA)**

Heart Zones

7 Healthy Heart Assessments

5 Components of Social and Emotional Learning

4 of the Assessments related to SEL:

Social and Emotional Learning

Look for this icon:

HEART ZONES

Heart Zones

7 Healthy Heart Assessments

I can explain what the numbers mean.

	**#1- Ambient Heart Rate:** Definition: Your heart rate when sitting at rest Explanation: The assessment of one's heart rate when sitting still to identify internal and external load.
	**#2- Delta Heart Rate:** Definition: the measure of your heart rate response from a change in body position. Also known as the "Orthostatic Test" Explanation: The cardiac stress in beats per minute (bpm) from sitting or lying down to standing as demand on the heart increases.
	#3- First Threshold (T1): Definition: The low of two different biomarkers in exercise metabolism measured by the first metabolic change with increased exercise effort in the use of lactate production or oxygen consumption. Also called "low threshold". Explanation: The heart rate when the physiological shift in exercise intensity at the low or first shift in metabolic accommodation for exercise intensity occurs.

7 Healthy Heart Assessments

I can explain what the numbers mean.

#4- Second Threshold (T2):

Definition: **T2 or second threshold** — The high of two different biomarkers in exercise metabolism measured by the second metabolic change with increased exercise effort in the use of lactate production or oxygen consumption. Also called "high threshold".

Explanation: The physiological shift in exercise intensity at the high or second shift in metabolic accommodation for exercise intensity.

#5- Absolute Recovery Heart Rate

Definition: The **number** of beats per minute your heart rate drops after cessation of exercise. The higher your fitness level, the faster the drop in your heart rate. A common recovery heart rate measurement is one minute.

Explanation: The drop in heart rate as by employing relaxation techniques.

Heart Zones

7 Healthy Heart Assessments

I can explain what the numbers mean.

#6- Rate of Recovery Heart Rate (%):

Definition: The **percentage** of beats per minute your heart rate drops after cessation of exercise. The higher your fitness level, the faster the drop in your heart rate. A common recovery heart rate measurement is one minute.

Explanation: How quickly the heart rate drops can be measured as a percentage. The higher the percentage the better the rate of recovery heart rate.

#7- Peak Heart Rate Assessment:

Definition: The highest heart rate number within a workout - it is not the maximum heart rate.

Explanation: : Understand that every individual has an individual peak or highest heart rate number that they can attain and that heart zones are anchored by this number.

HEART ZONES

7 Healthy Heart Assessments

Ambient Heart Rate

- Definition: The number of bpm when seated and relaxed. Ambient heart rate is a measure of relative emotional stress
- Measures: Relative physical stress and recovery
- Affected by internal and external conditions:
  - ✓ Temperature
  - ✓ Medication
  - ✓ Training status
  - ✓ Foods—stimulants such as caffeine and depressants such as alcohol.
  - ✓ Amount and quality of sleep and other daily activities
  - ✓ Other stressors

Heart Zones

7 Healthy Heart Assessments

Ambient Heart Rate

I am able to implement the 7 Healthy Heart Assessments with my students.

Assessment

- Ask all participants sit quietly without moving
- Every 1-minute record on the worksheet participants heart rate BPM (beats-per minute).
- After 5 recordings ball-park average the numbers in BPM and enter this heart rate number on their Scorecard.
- Score: Lower number of bpm is better than high heart rate.

Scorecard

Ambient Heart Rate:		**Ambient Heart Rate Scale**
1 minute: _____ bpm	_____**bpm**	> 90 bpm High Stress Level
2 minutes: _____ bpm		80-90 bpm Higher than Average
3 minutes: _____ bpm		**70-80 bpm Average**
4 minutes: _____ bpm		70 bpm Healthy
5 minutes: _____ bpm		< 70 bpm Very Healthy

HEART ZONES

7 Healthy Heart Assessments

Delta Heart Rate

- **Definition:** The difference in heart rate number in beats-per-minute from lying down to standing up
- **Measures:** Whenever you stand, you are changing the training load on the cardiac system requiring the heart to pump blood against the forces of gravity

A low Delta heart rate number means less stress. A higher Delta heart rate number means more stress. As your fitness improves, your delta heart rate will decrease

Heart Zones

7 Healthy Heart Assessments

Delta Heart Rate

I am able to implement the 7 Healthy Heart Assessments with my students.

Assessment

- Sit or lie down after 2 minutes record your heart rate.
- Stand up and after 2 minutes record your heart rate.
- Subtract the heart rate number lying down from standing up to score the delta or difference between the two.

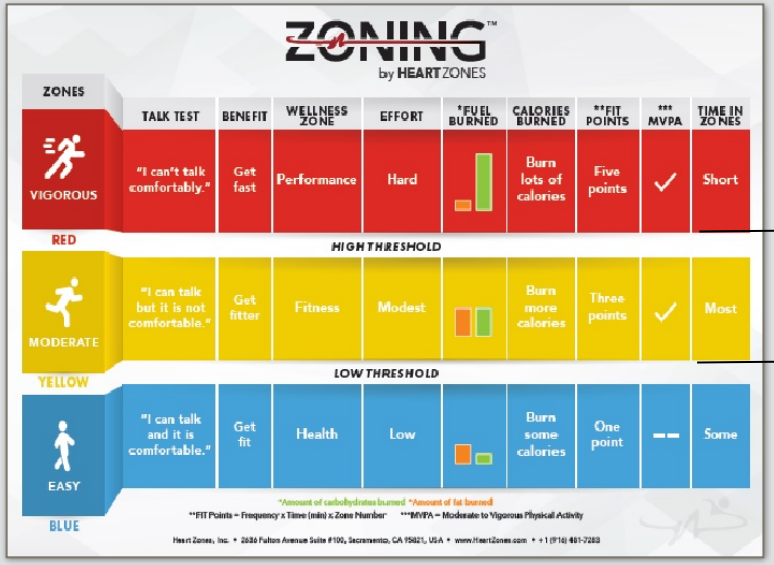
Scorecard

Delta Heart Rate: Standing-up heart rate: ____bpm Lying down heart rate: (-) _____ Delta Heart Rate = _____bpm	**My Delta Heart Rate is:** _____bpm	**Delta Heart Rate Scale** 3-10 bpm Excellent **11-20 bpm Average** 21-30 bpm Higher than average > 30 bpm Highly stressed

HEART ZONES

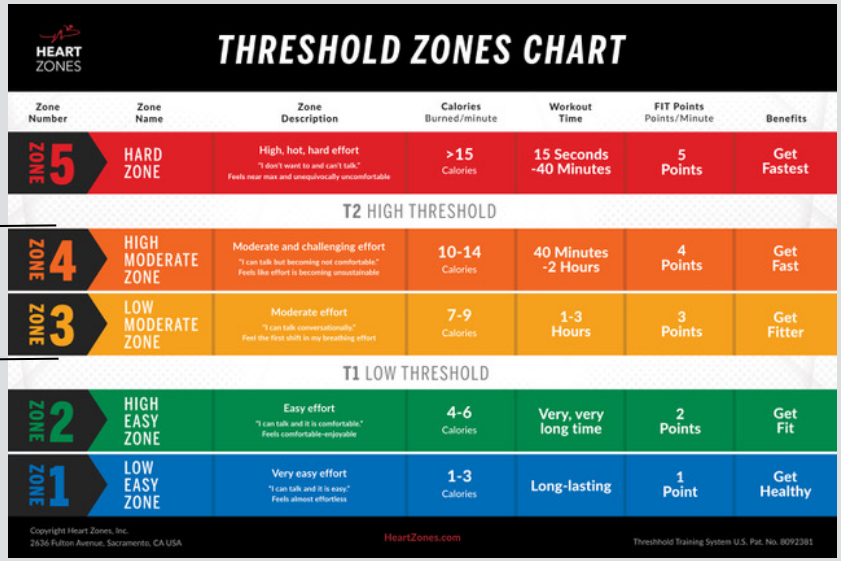
7 Healthy Heart Assessments

Heart Rate Thresholds



T_2

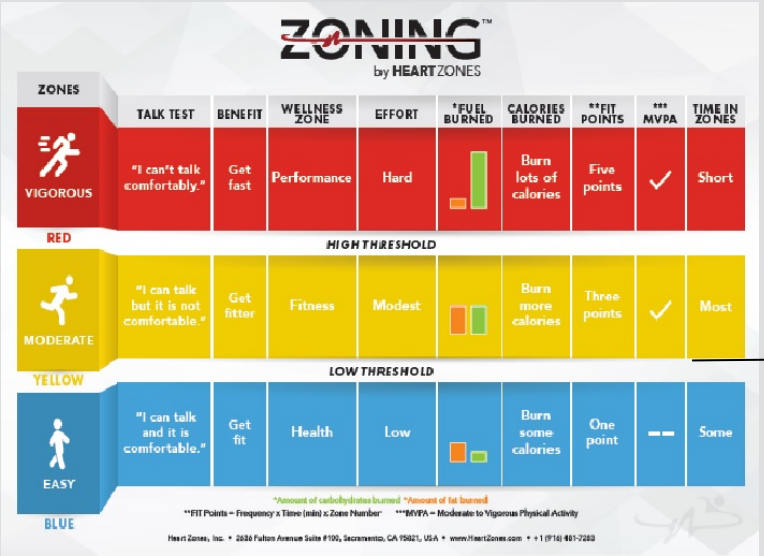
T_1



- **T1/VT Threshold Heart Rate:** The number of beats per minute when you are at the first detectable metabolic shift. Roughly 60-70% of your MAX heart rate. Beginning of the Yellow Zones. Exercise intensity when you just start to breath hard.
- **T2/LT Threshold Heart Rate:** The number of beats per minute when at one's maximum sustainable metabolic heart rate or**.** Roughly 80% of your MAX heart rate. Beginning of the Red Zones. Exercise intensity when effort becomes too hard to talk.

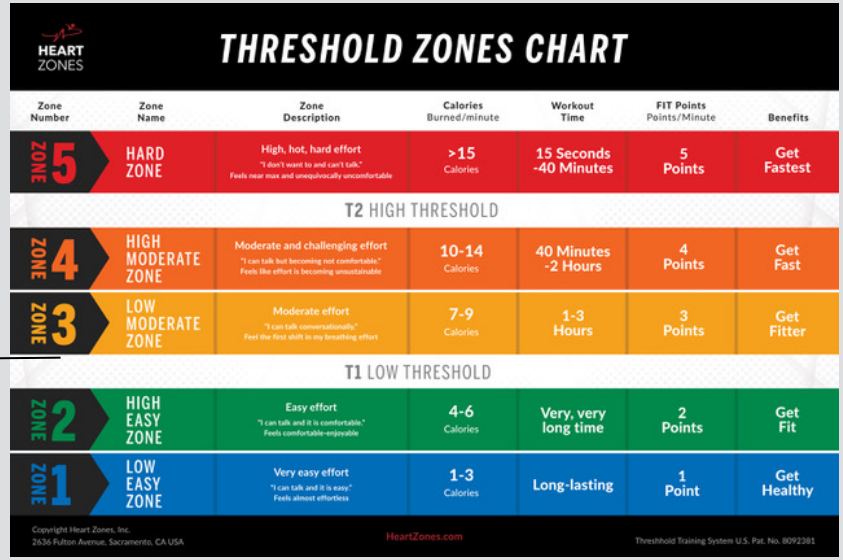
7 Healthy Heart Assessments

Why Thresholds are Important in Physical Education



MVPA

T1



- **MVPA (Moderate to Vigorous Physical Activity):** Roughly 60-70% of your Peak/ MAX heart rate. T1 or higher is MVPA
- **CDC…Strategies to Improve the Quality of Physical Education:** HHS recommends that students engage in MVPA for at least 50% of the time they spend in PE class – one of the most critical outcome measures in determining the quality of a PE program
- **MVPA:** Included in the national and most state standards. Standards 3 and 4

Heart Zones

7 Healthy Heart Assessments

First Threshold (T_1) Heart Rate

I am able to implement the 7 Healthy Heart Assessments with my students.

Assessment

- Every 2-minute stage, say aloud a verse such as the Pledge of Allegiance.
- Then answer this exact question, "Can you speak comfortably"?Circle in the corresponding column one of three choices "Yes" or "Yes, but" or "No" that best corresponds with your breathing response, ventilation rate and depth.
- To score, T1 = Low Threshold heart rate: the heart rate number when for the first time, the participant first circles **"Yes, but"**
- Continue the test and recover when you reach T2 heart rate number. See Second Threshold (T2) slide that follows for explanation of T2 heart rate.

"I pledge allegiance to flag of the United States of America, and to the republic for which it stands, one nation under _____, indivisible, with liberty and justice for all."

HEART ZONES

7 Healthy Heart Assessments

I am able to implement the 7 Healthy Heart Assessments with my students.

(continued) First Threshold (T_1) Heart Rate

HEART ZONES® TRAINING

SCORECARD

"Can You Speak Comfortably?" Foster* Threshold Field Test

ZONING FITNESS IN A BLINK

(A) Scoring: Low threshold, T1, is the heart rate number where you first circled "Yes, but...." and high threshold, T2, is the heart rate number where you circled "No".

Stage	Heart Rate Number *(BPM)*	Time *(minutes)*	"Can You Speak Comfortably?" (A)		
Warm-Up	100 bpm	0-5 min	Yes	Yes, but...	No
1	110 bpm	5-7 min	Yes	Yes, but...	No
2	120 bpm	7-9 min	Yes	Yes, but...	No
3	130 bpm	9-11 min	Yes	Yes, but...	No
4	140 bpm	11-13 min	Yes	Yes, but...	No
5	150 bpm	13-15 min	Yes	Yes, but...	No
6	160 bpm	15-17 min	Yes	Yes, but...	No
7	170 bpm	17-19 min	Yes	Yes, but...	No
8	180 bpm	19-21 min	Yes	Yes, but...	No

*This test is named after Carl Foster, Ph. D. who created and validated the "Can You Speak Comfortably?" assessment.
Carl Foster, PhD, John P. Porcari, PhD, et al. The Talk Test as a Marker of Exercise Training Intensity. Journal of Cardiopulmonary Rehabilitation and Prevention 2008; 28:24–30.

7 Healthy Heart Assessments

I am able to implement the 7 Healthy Heart Assessments with my students.

(continued) First Threshold (T_1) Heart Rate

Scorecard		
First Threshold (T1):	_____**bpm**	• The first-time shift in ventilation aka breathing. • The first time that speaking effort shifts ever so slightly to be require more effort. • T_1 is approximately 60-70% of one's maximum heart rate.

7 Healthy Heart Assessments

I am able to implement the 7 Healthy Heart Assessments with my students.

Second Threshold (T_2) Heart Rate

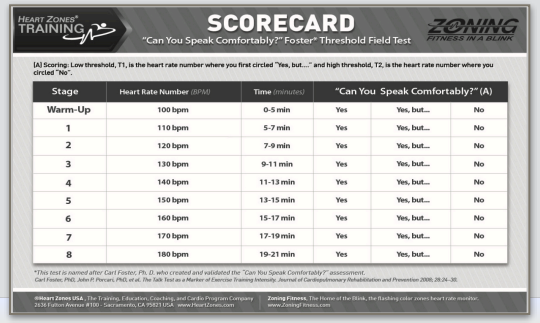
Assessment

- Continue the assessment from the First Threshold or T_1
- Every 2-minute stage, say aloud the same verse such as the Pledge of Allegiance.
- Then answer this exact question, "Can you speak comfortably"? Circle in the corresponding column one of now two choices "Yes, but" or "No" that best corresponds with your breathing response (ventilation rate and depth).
- To score, T_2 = Low or Second Threshold heart rate: the heart rate number in BPM when you first circle **"No"**
- Immediately slow or stop and being the **Absolute Recovery Heart Rate Test** #6 within the 7 Healthy Heart Assessments.

7 Healthy Heart Assessments

I am able to implement the 7 Healthy Heart Assessments with my students.

Second Threshold (T_2) Heart Rate



HEART ZONES® TRAINING

SCORECARD

"Can You Speak Comfortably?" Foster* Threshold Field Test

ZONING FITNESS IN A BLINK

[A] Scoring: Low threshold, T1, is the heart rate number where you first circled "Yes, but…" and high threshold, T2, is the heart rate number where you circled "No".

Stage	Heart Rate Number (BPM)	Time (minutes)	"Can You Speak Comfortably?" (A)		
Warm-Up	100 bpm	0-5 min	Yes	Yes, but…	No
1	110 bpm	5-7 min	Yes	Yes, but…	No
2	120 bpm	7-9 min	Yes	Yes, but…	No
3	130 bpm	9-11 min	Yes	Yes, but…	No
4	140 bpm	11-13 min	Yes	Yes, but…	No
5	150 bpm	13-15 min	Yes	Yes, but…	No
6	160 bpm	15-17 min	Yes	Yes, but…	No
7	170 bpm	17-19 min	Yes	Yes, but…	No
8	180 bpm	19-21 min	Yes	Yes, but…	No

*This test is named after Carl Foster, Ph. D. who created and validated the "Can You Speak Comfortably?" assessment.
Carl Foster, PhD, John P. Porcari, PhD, et al. The Talk Test as a Marker of Exercise Training Intensity. Journal of Cardiopulmonary Rehabilitation and Prevention 2008; 28:24–30.

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www.ZoningFitness.com

Scorecard

Second Threshold (T2):	_____**bpm**	• The second shift in ventilation or breathing rate and depth. • The second time that speaking effort shifts • Approximately 80% maximum heart rate. • Also known as the "High Threshold" number

7 Healthy Heart Assessments

Absolute Recovery Heart Rate

- **Definition:** Recovery heart rate measures the change in your heart rate for the first few minutes after exercise.
- **Measures:** At the end of your activity, recovery heart rate is the number beats per minute your heart rate decreases in allotted amount of time. Normally one or two minutes.
- **Factors that can affect recovery heart:**
  - ✓ Dehydration
  - ✓ Caffeine
  - ✓ Fatigue

The better your physical fitness level, the quicker your heart recovers after exercise.

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7 Healthy Heart Assessments

Absolute Recovery Heart Rate

I am able to implement the 7 Healthy Heart Assessments with my students.

Assessment

- Enter your Ambient heart rate number.
- Add 60 to 100 beats to that number and hold this number for 2-4 minutes.
- Immediately sitting quietly and comfortably for 1 or 2 minutes of recovery.
- After 1 or 2 minutes record your heart rate number on the Scorecard.

Scorecard

Absolute Recovery Heart Rate Number	**Recovery Heart Rate:** ☐ **Active or** ☐ **Complete** _____**bpm**	**Absolute Recovery Heart Rate for the 1-Minute Absolute Recovery Heart Rate:** > 52 bpm Extremely Rapid 42-51 bpm Very Rapid 32-42 bpm Rapid ***22-31 bpm Average*** 12-21 pm Slow <12 bpm Extremely slow — caution.

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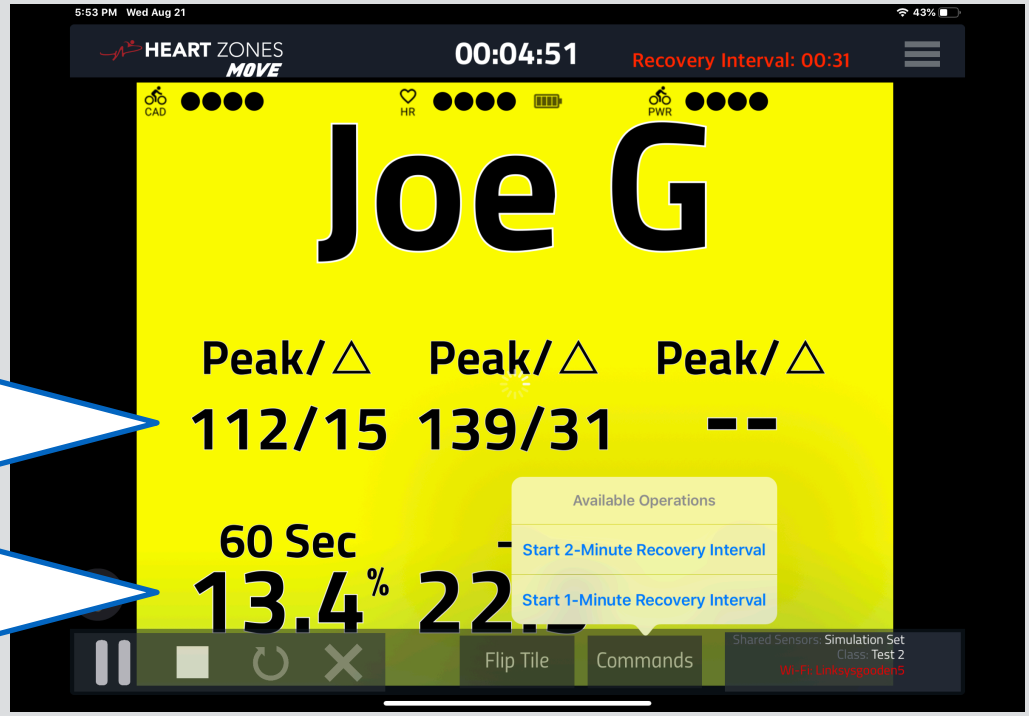
7 Healthy Heart Assessments

Heart Zones Move 1- and 2-Minute Recovery Test



- Heart Zones Move allows for the capture a one- or two-minute recovery heart rate test
- Shown in the number of beats per minute or as a percentage drop
- Data is captured on participant reports for analysis

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7 Healthy Heart Assessments

I am able to implement the 7 Healthy Heart Assessments with my students.

Peak Heart Rate: *Optional Assessment*

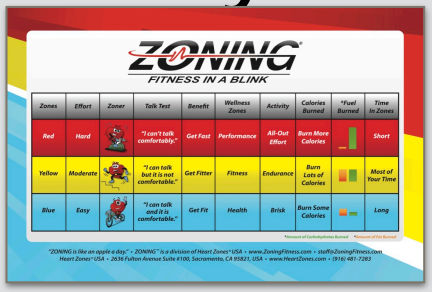
Assessment

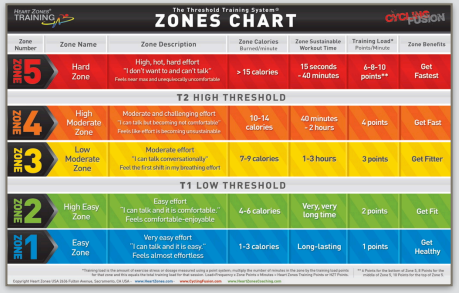
- Start the test by adding to Ambient Heart Rate 70 bpm.
- Every 30 seconds increase heart rate by 5 pm above that number.
- When you can no longer increase your heart rate stop the assessment and write down the highest heart rate number on Scorecard.
- Note: The Pacer Test is another way to achieve Peak heart rate value.

Scorecard

Peak Heart Rate aka PHR Number for this Session:	_____**bpm**	• The highest heart rate in any one session. • Higher number is not better than lower. • Used to set the top of Zone 5, the Red Zone.

7 Healthy Heart Assessments





Example

Calculating the Heart Rate Zones

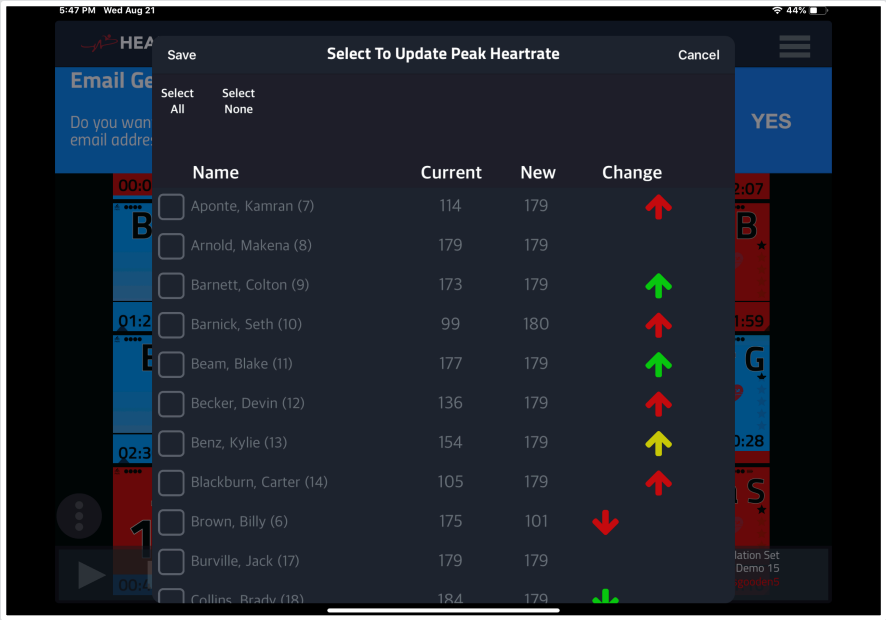
for ZONING or the Threshold Heart Rate Method

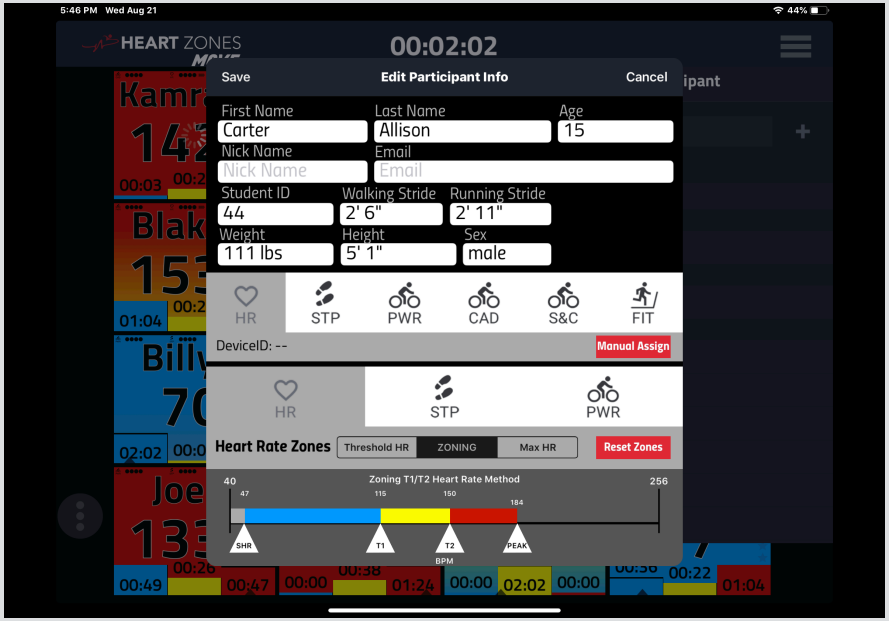
100% = Peak Heart Rate (PHR)	80% x PHR = Second Threshold (T2)	70% x PHR = First Threshold (T1)	50% x PHR = Starting Heart Rate
180 bpm	144 bpm	126 bpm	90 bpm

7 Healthy Heart Assessments

Save the Peak

automatically individualize heart rate zones





- "Save Peak Value During Session" Heart Zones Move app feature allows you to run some type of "field" test (example: the PACER test) to capture a participant's peak heart rate, set the max heart rate for that participant, auto calculates zones for each participant and save that information to the participant profile.
- "Levels the playing field"… heart rate zones based on student's true physiological zones not a useless formula.

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7 Healthy Heart Assessments

I understand the reason why it is important to assess heart health.

#	Name of Abnormality	Explanation
(1)	**Erratic Heart Rate Numbers or Arrhythmia:**	**Premature ventricular contraction**, or PVC, is the most common type of irregular heartbeat. A PVC happens when the heart beats too early, which causes a stronger second beat. ... Things like caffeine, alcohol and stress can cause small, temporary arrhythmias like PVCs
		Bradycardia: The **heart beats** too slow, below 60 bpm. For athletic individuals, a normal resting **heart rate** can be below 60 bpm, and not cause problems.
		Atrial Fibrillation (AFib): the upper chambers of the heart (the atria) beat irregularly (quiver) instead of beating effectively to move blood into the ventricles.
		Tachycardia: Your heart is beating too fast. For example, a normal heart beats 60 to 100 times per minute in adults. Tachycardia is any resting heart rate over 100 beats per minute (BPM).
(2)	**Heart Rate Does Not Increase with Effort:**	Could be related to a number of reasons such as certain medicines used by the participant, early warning of blocked arteries.

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7 Healthy Heart Assessments

I understand the reason why it is important to assess heart health.

#	Name of Abnormality	Explanation
	**(3) Delta Heart Rate above 30 bpm:**	Also known as orthostatic test, the assessment is a measurement of the autonomic nervous systems response to a change in body position. Lower numbers are better than higher numbers because they represent this change in body position as a less stressful activity. A number higher than 20 is cautionary and over 30
	**(4) Ambient Heart Rate above 100 bpm or below 50 bpm:**	An indicator of health status, the lower the ambient heart rate the better. High values indicate high stress levels. Note: Bradycardia is abnormally low ambient heart rate and tachycardia is abnormal high ambient heart rate.

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7 Healthy Heart Assessments

I understand the reason why it is important to assess heart health.

	Name of Abnormality	Explanation
	**(5) Heart Rate Variability trends downward:**	The higher the variation in the beat-to-beat interval, the better one's HRV score. High variability indicates a responses ANS, autonomic nervous system to slight changes in stimuluses.
	**(6) Recovery Heart Rate <12 bpm for adults:**	Low recovery heart rate is indication of poor cardiovascular fitness because it is the participants inability to respond quickly to replenishment of nutrients and oxygen to the working muscles. May represent impaired parasympathetic tone and to be a predictor of all-cause cardiovascular mortality.*

* Heart-Rate Recovery Immediately after Exercise as a Predictor of Mortality. Christopher R. Cole, M.D., Eugene H. Blackstone, M.D., Fredric J. Pashkow, M.D., Claire E. Snader, M.A., and Michael S. Lauer, M.D.N Engl J Med 1999; 341:1351-1357October 28, 1999DOI: 10.1056/NEJM199910283411804

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7 Healthy Heart Assessments

I understand the reason why it is important to assess heart health.

- **Screening:** Report any abnormalities in heart rate to your school nurse.
- **SEL:** Social and Emotional Learning - Student awareness of their current level of emotional load.
- **Setting Individual Zones:** Field test each individual for their unique heart rate numbers because the maximum heart rate formula is useless.
- **Trends:** Use data to see changes and improvements in heart health.
- **Physical Literacy:** Students learn the power of listening to their hearts and understanding what the data and the feelings mean.
- **Evidence:** Proof that your HPE (health and physical education program) is of the highest quality.
- **Standards:** Demonstrate that your program is meeting the SHAPE national standards.

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7 Healthy Heart Assessments

THANK YOU

We would love to share more please invite us to do so.

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NOTE: This presentation is available on the Heart Zones Website:

https://www.heartzones.com/7-healthy-heart-assessment-what-do-the-heart-rate-numbers-mean/