

Karvonen Formula for calculating individualized target heart rate parameters:

Target heart rate intensity goal is usually 40-60% (moderate) of the heart rate reserve (HRR) added back to the resting heart rate. See below for example calculation:

Example) A Patient performs Exercise Tolerance Test (ETT) with values as follows:

Maximal heart rate is 160 bpm.

Resting heart rate is 60 bpm.

Heart rate reserve (HRR) = Max HR – Resting HR = 160 bpm - 60 bpm = 100 bpm

Target heart rate for a 40% intensity program would be:

$(0.4)(\text{Max HR} - \text{Resting HR}) + (\text{Resting HR}) = (0.4)(100) + 60 = \underline{100 \text{ bpm for 40\% program}}$

Target heart rate for a 50% intensity program would be:

$(0.5)(\text{Max HR} - \text{Resting HR}) + (\text{Resting HR}) = (0.5)(100) + 60 = \underline{110 \text{ bpm for 50\% program}}$

Target heart rate for a 60% intensity program would be:

$(0.6)(\text{Max HR} - \text{Resting HR}) + (\text{Resting HR}) = (0.6)(100) + 60 = \underline{120 \text{ bpm for 60\% program}}$

Shorthand for a target heart range in a Wellness program prescription would be:

“Target Heart Rate (THR) is 100-120 bpm.”

If prescribing a 6-week Cardiopulmonary phase II rehab program, you can use the following format:

Weeks: Target Heart Rate (intensity)

1-2 ## bpm (40%)

3-4 ## bpm (50%)

5-6 ## bpm (60%)

Hold for BP > (insert max on ETT or highest in vitals trend)

Hold for concerning cardiopulmonary symptoms.

Maintain O2 Sat > 91% during exercise with supplemental O2 as needed

May use seated machines (if balance in question)