Power and Heart Rate Training Evolution

PEAKS COACHING GROUP
HUNTER ALLEN

Power training is the evolution of training with data

RPE → Heart Rate → Power

GOOD DATA | BETTER DATA | BEST DATA

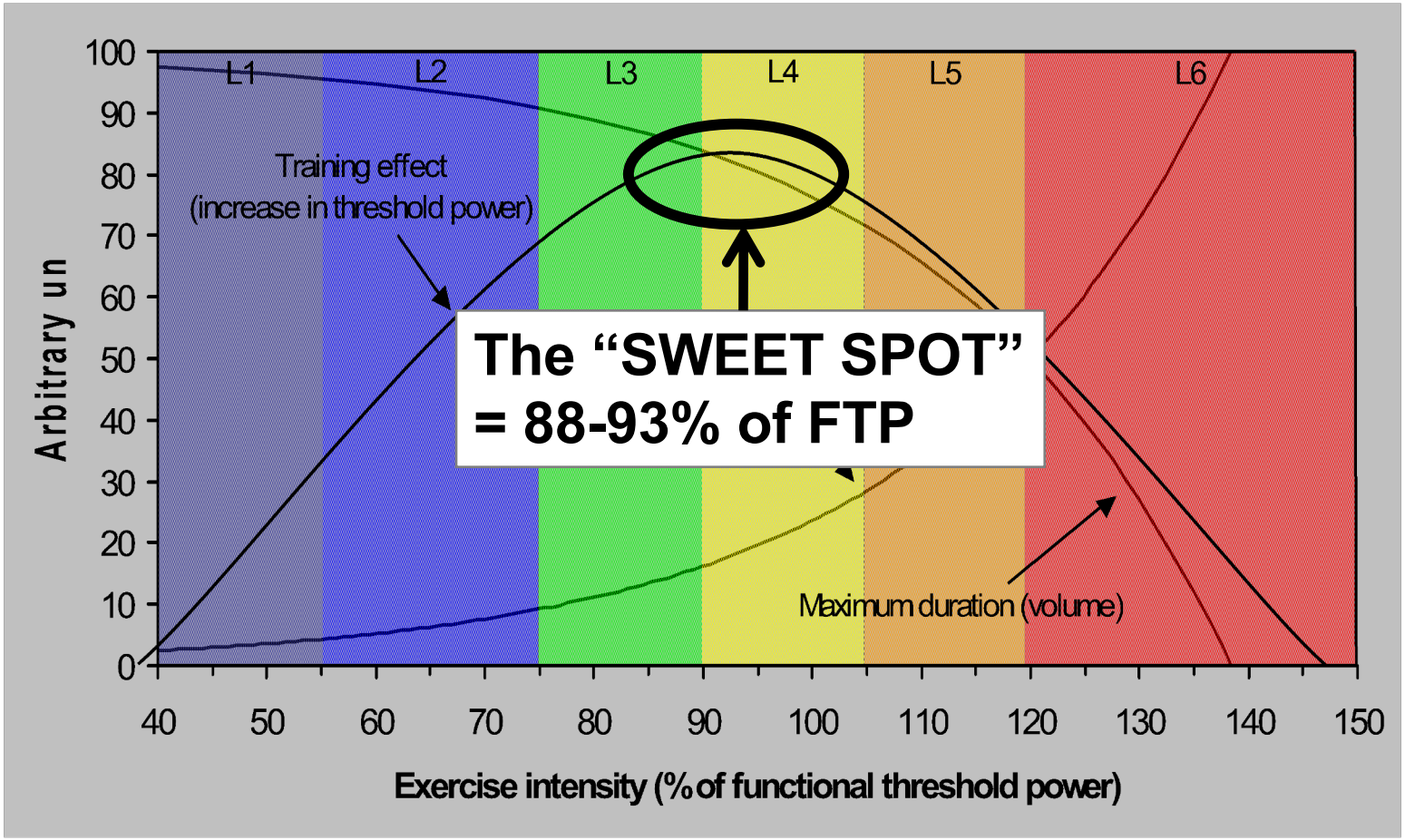
THINK ABOUT STRENGTH TRAINING

Why is Power Training "Evolved"?

POWER TRAINING	HEART RATE / PE
Precisely Measures Exact Amount of WORK you do	Measures the RESPONSE to the WORK you do
Establishes Quantifiable Baseline Fitness	Establishes Baseline Heart Rate
Creates SPECIFIC TRAINING zones	Creates GENERAL TRAINING zones
Allows you to MEASURE micro-changes in fitness	Allows you to MEASURE large changes in fitness
Re-testing leads to increased TRAINING ZONES, ensuring progressive overload	Retesting shows improvement in a "variable", not always progressive

Training Levels Effect

Diagram by Andrew R. Coggan Ph.D.



Expected Adaptation

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Expected physiological adaptations from training in Zones 1-7								
	Zone 1	Zone 2	Zone 3	Sweet Spot	Zone 4	Zone 5	Zone 6	Zone 7
	Active Recovery	Aerobic Capacity	Tempo	"SST"	Threshold	VO2 MAX	Anaerobic Capacity	Neuromuscular Power
Example Length	30-90 minutes	1- 6 hrs	1-4 hours	0.5 - 3 hours	8-30 minutes	3-6 minutes	1 minute	5-15 seconds
Increased plasma volume	x	x	xx	xx/ xxx	xxx	xxxx	x	x
increased mitochondrial enzymes	x	xx	xxx	xxx/ xxxx	xxxx	xx	x	x
increased lactate threshold	x	xx	xxx	xxx/ xxxx	xxxx	xx	x	x
increased muscle glycogen storage	x	xx	xxxx	xxxx/ xxx	xxx	xx	x	x
hypertrophy of slow twitch muscle fibers	x	x	xx	xx	xx	xxx	x	x
increased muscle capillarization	x	x	xx	xx	xx	xxx	x	x
interconversion of fast twitch muscle fibers (type IIb>type IIa)	x	xx	xxx	xxx	xxx	xx	x	x
increased stroke volume/maximal cardiac output	x	x	xx	xx/ xxx	xxx	xxxx	x	x
increased VO2 Max	x	x	xx	xx/ xxx	xxx	xxxx	x	x
increased muscle high energy (ATP/PCr) stores	x	x	x		x	x	x	xx
Increased anaerobic capacity ("lactate tolerance")	x	x	x		x	x	xxx	x
Hypertrophy of fast twitch fibers	x	x	x		x	x	x	xx
increased neuromuscular power	x	x	x		x	x	x	xxx

Table courtesy of Dr. Andy Coggan, Ph.D "Training and racing using a power meter: an introduction".