ACSM Personal Trainer Exam Study Guide By Sorta Healthy

(We are not affiliated with ACSM)

ACSM CERTIFIED PERSONAL TRAINER℠

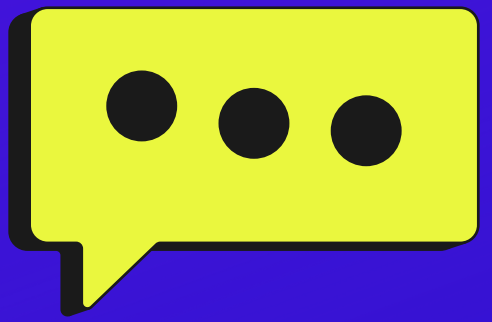
Steps To Pass Your Exam

1. Skim the ACSM Resources For The Personal Trainer Book (Cheap link below)
2. Review this video a few times. Understand the material.
3. Review the fitness pocket prep app (Cheap link below)
4. Maybe take the ACSM practice exam

Initial Consultation

1. Call 24-48 hours before
2. Be on time or early
3. Be professional
4. Stay in scope
5. Provide credible fitness programs

CONSULT CONTINUED



-GREET CLIENT BY NAME WITH FIRM HANDSHAKE

-ADDRESS CLIENT REQUESTS AND DO WHAT YOU CAN

-AT THE END OF A SESSION THANK THEM AND PROVIDE POSITIVE REINFORCEMENT

-MAKE FOLLOW UP CALLS/EMAILS POST SESSION

-SEND A HANDWRITTEN CARD AFTER INITIAL CONSULT

Principle Of Relationship Marketing

-Personal relationship should take precedence and sales will follow

-Retaining clients takes precedence over signing new clients

Rapport Building

-Ask simple open ended questions

-Listen and encourage with non verbal cues

-Clarify and summarize. Make sure you understand what they're saying

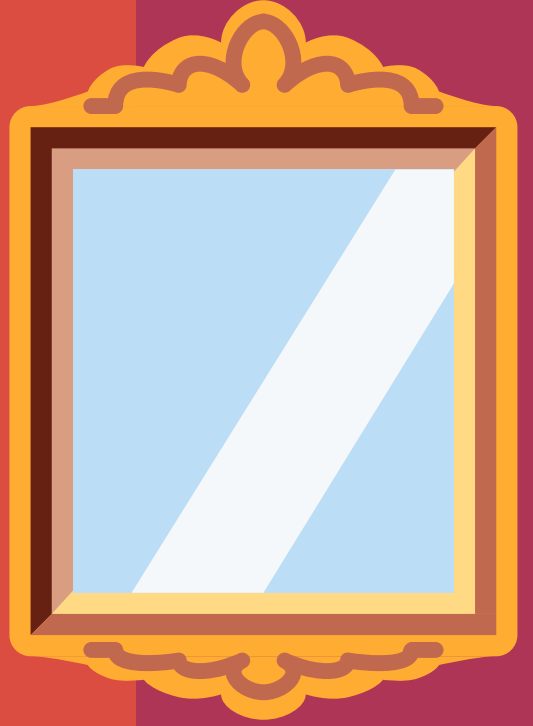
-Use reflective statements

Active Listening

- Asking Questions
- Reflecting
- Summarizing
-Observing non verbal cues

Clarifying, repeating, and summarizing what's said.

Reflections are big!



Client says: “ I want to lose 15 pounds, but my husband keeps bringing home pizza.”

You say: “I undertand that. Sometimes the enviroment you live in can present challenges.”

Whether we're talking about active listening or the client centered approach, know that body/facial language and nonverbal cues are huge.

You should only be speaking 10-15% of the time in a consultation. This means you'll spend a lot of time actively listening.

Other Random Consult Stuff

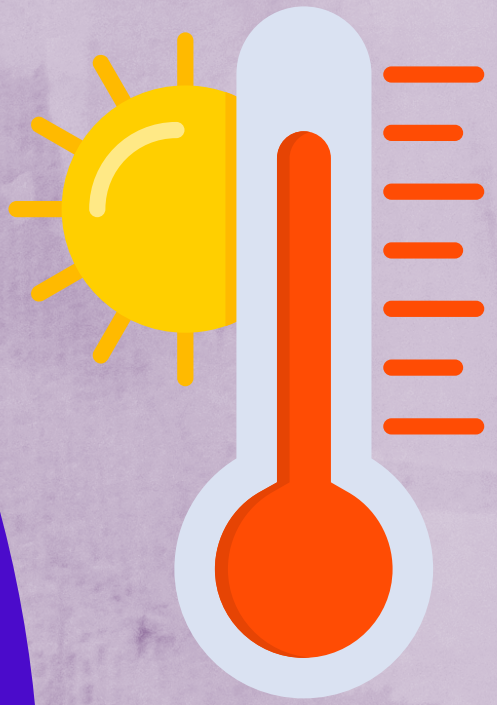
-Temp should be 68-72 deg. F

under 60 percent humidity

-A private area is desirable

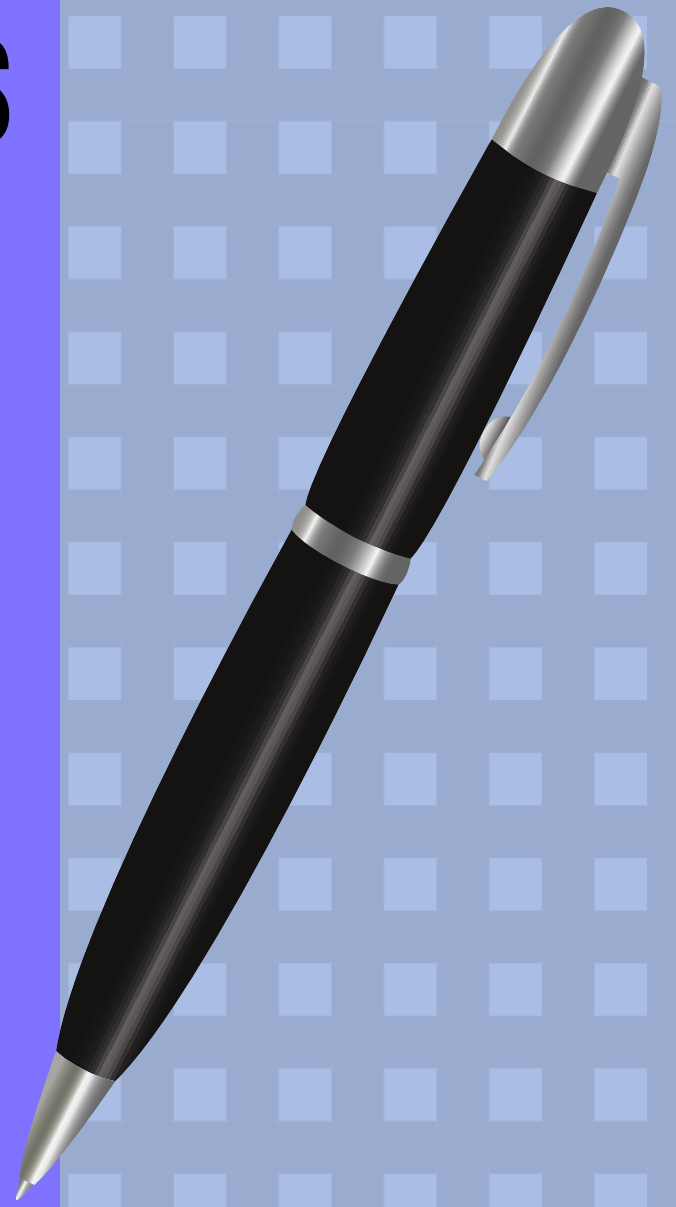
-Light convo. to put client at ease

-PARQ+ and Health/med history questionnaire should be done before or during consult.



Pre-Participation

The PAR-Q+ is a subjective yes or no questionnaire that is used to determine whether it's safe or not for a client to begin an exercise program. It has follow up portions to reduce false postive readings.



The Health History Questionnaire is next. It's similar to the PARQ, but it's not yes or no questions. It gets you more detailed info on your client. Things like what medications they're taking, family history, etc. are covered.

Informed Consent: Ethical and legal stuff. Client should sign before starting.

Medical Clearance Form: If something came up in the PARQ or the health history evaluation, this would be done.

Personal Trainer Client Agreement:

This should also be discussed day #1. Cancellations, payments, and info on other related things should be here.

Needs Analysis

Determine a clients overall goal and what's needed

Analysis of movement, fitness, and injury prevention

Should be done with all populations

Will vary client to client


GOALS

Behavior Change

Something you're pretty likely to be asked about on the test is the transtheoretical model. There are five stages to that.

1 Pre-contemplation

2 contemplation

3 Preparation

4 Action

5 Maintenance

First, we have pre-contemplation where people are physically inactive. They're not intending on beginning an exercise program, and they don't see exercise as worth their time.

Then you have contemplation. People who are inactive, but thinking about becoming more active in the next six months go here. They're still weighing the pros and cons of exercise, but they're starting to consider the benefits.

Next is preparation. People in this stage are doing some physical activity and preparing to adopt a more consistent activity program.

These people are only doing things like sporadic walking, but they're ready to adopt an active lifestyle.

Then you have the action stage. People are here when they're engaging in regular physical activity but have been doing so for less than six months.

Lastly, you have maintenance. People on this stage have been working out consistently for longer than six months.

Be able to identify where a person is within this model!

Decisional Balance

-Acknowledge pros and cons of health change

-Part of the TTM (transtheoretical model)

-Reverse diabetes

-Less joint pain

-Exercise is hard

-Fear of failure

Only a minority (usually less than 20%) of a population at risk is prepared to take action at any given time.

S PECIFIC

M EASURABLE

A TTAINABLE

R EALISTIC

T IMELY

Small Changes Model (new)

SELF SELECTED

MEASURABLE

ACTION ORIENTED

LINKED TO LIFE

LONG TERM

Health Belief Model

Behavior change is predicted by ones feeling of susceptibility.

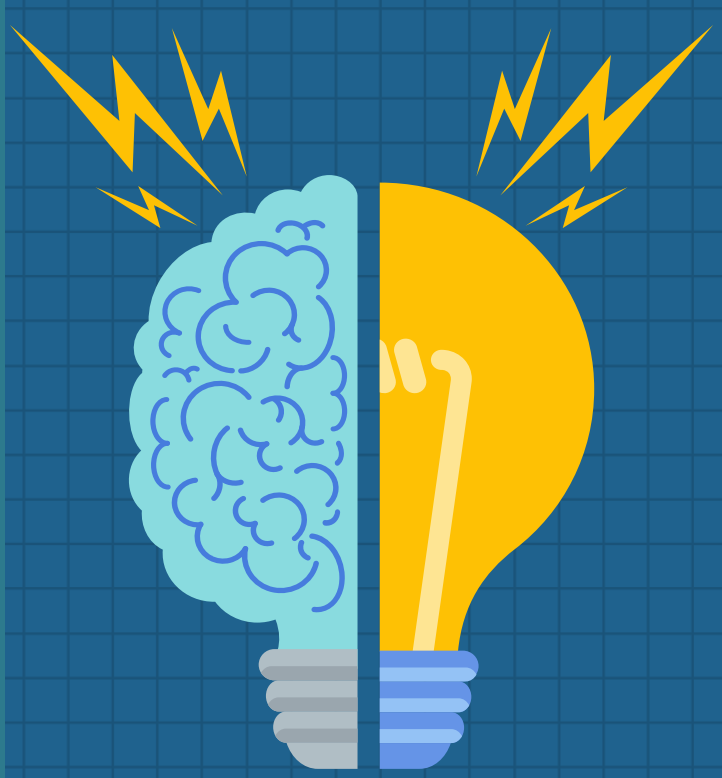
Danger > Benefits

Not as useful for those without identified health risks

Social Cognitive Theory

Outcome expectations and self efficacy are most important factors for behavior change.

Considers clients thoughts, environment, and feelings about behavior change



SCT's Two Most Important Factors In Behavior change

-Outcome Expectations
-Self Efficacy

Self Monitoring

Refers to the practice of tracking one's own behavior for the dual purpose of increasing awareness and monitoring progress.

Theory Of Planned Behavior

Intention to engage in a behavior is shaped by a clients attitude regarding: how helpful/enjoyable something is, subjective norms/social pressure, their self efficacy.

Social Ecological Model

Health behaviors aren't only shaped by the individual. Environment, relationships, laws, barriers, etc. also have an effect.

5 A's Of Behavior Change

-Assessing

-Advising

-Agreeing

-Assisting

-Arranging

4 Types Of Support Examples

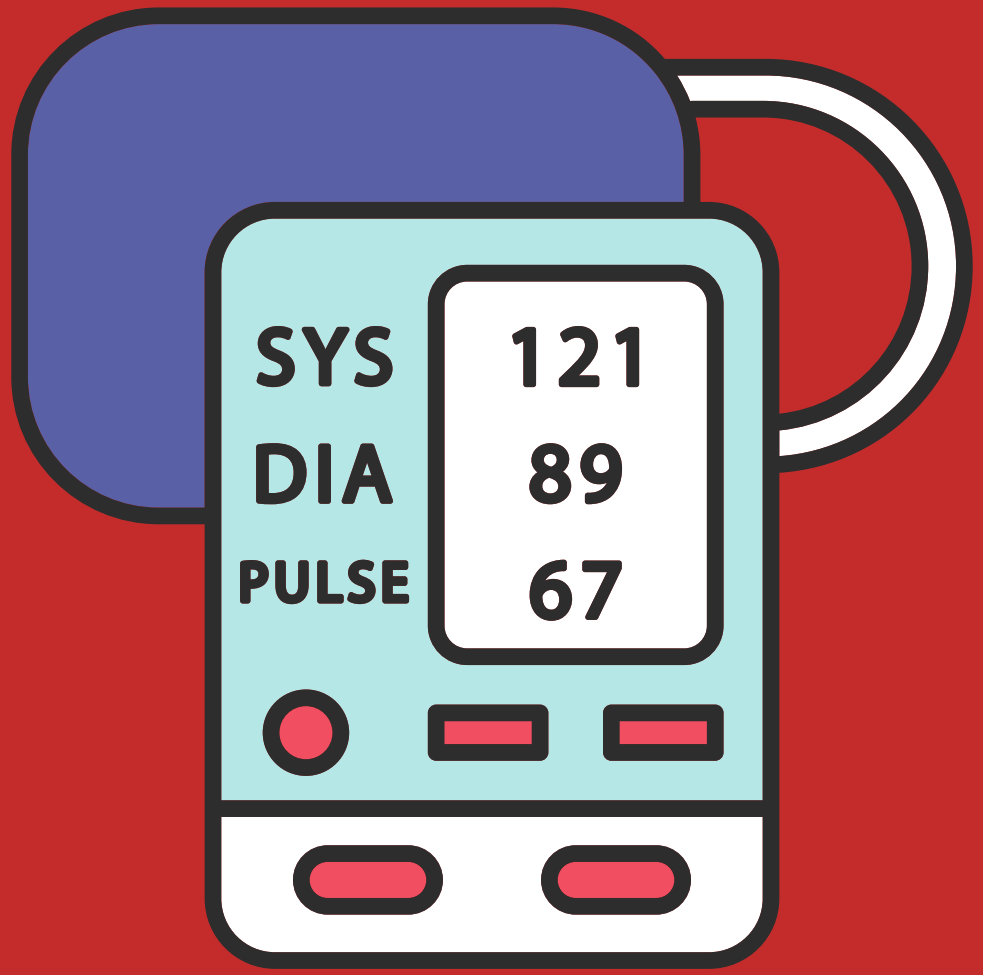
Emotional: A friend periodically calling to encourage sticking with the exercise program.

Tangible: A spouse offering to cook dinner while the client works out.

Informational: emails, posters, etc. on form

Appraisal: A spouse praising progress

Risk Factors



Age- Men 45 or older and women 55 or older

Fam Hist.- Parent, child, sibling heart dis. prior to 55m or 65f

Smoke- Smoker or quit within last 6 months

Sedentary- Less than 30 mins of mod. int. exs. 3 days a week for 3 mon.

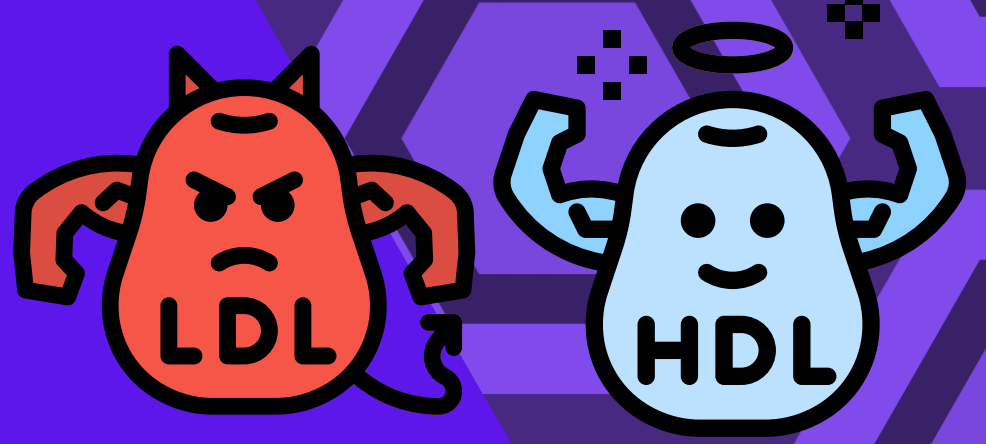
Obesity- BMI ≥ 30 or waist circ. over 102cm/40in M or 88cm/35in F

Hypertension- BP ≥ 130 sys. or 80 dia. or being on meds

Dyslipidemia - LDL ≥ 130 HDL < 40 or if on meds | Only total 200 ≥

Diabetes - fasting blood glucose ≥ 126 or 2 hr. OGTT ≥ 200 or A1C ≥ 6.5%

LDL vs HDL



LDL is often known as
bad cholesterol and HDL
is good Cholesterol.

HDL ≥ 60 is a negative risk factor.

If someone has a triglyceride level of 209, where does that put them?

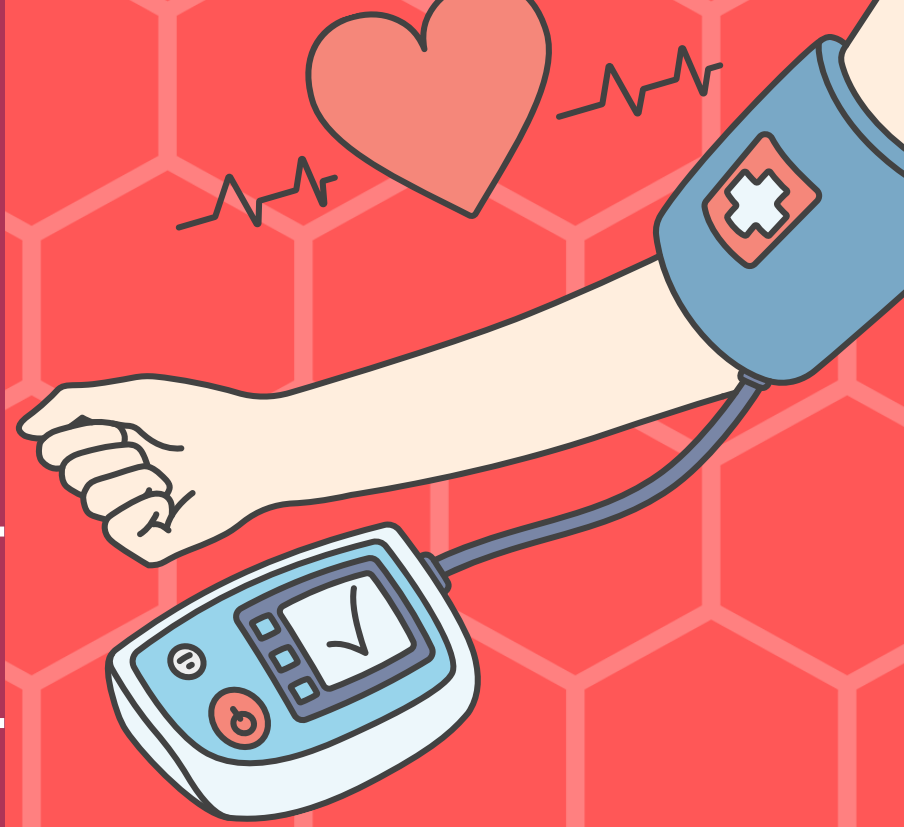
- Normal
- Borderline high
- High
- Very high

If someone has a triglyceride level of 209, where does that put them?

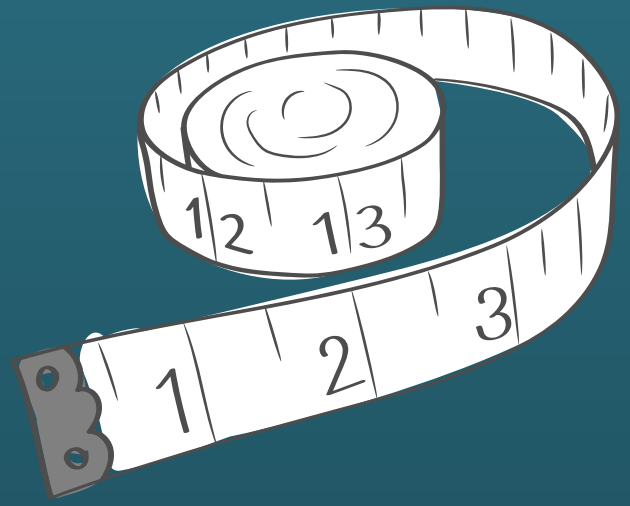
Normal	Less than 150 mg/dL
Borderline high	150-199 mg/dL
High	200-499 mg/dL
Very high	500 mg/dL or higher

Blood Pressure

	Systolic	Diastolic
Normal:	< 120	< 80
Elevated:	120- 129	< 80
Hypertension Stage 1	130- 139	80-89
Stage 2	≥140	≥ 90
HYP. Crisis	≥180	≥120



Waist To Hip Ratio Risk



Greater than .86 women and .95 men

No official units for WHR

Waist Measurement ÷ Hip Measurement

ACSM's Health Screening Recommendations

https://www.acsm.org/docs/default-source/files-for-resource-library/acsmprescreening101.pdf?sfvrsn=bc703144_4

When in doubt refer out!

Frequency
Intensity
Time
Type
Volume
Progression

FITT-VP

Six variables to influence training

Resistance training

Frequency	At least 2-3 days a week for major muscle groups. 48 hours between WO's is good. Thing will vary a lot.
Intensity	
Time	
Type	
Volume	Add time, duration, intensity, volume over time. Program balance is essential.
Progression	

Frequency
Intensity
Time
Type
Volume
Progression

Balance/Neuromuscular training
At least 2-3 days a week for 20-30 mins duration for certain populations.
Base of support, center of mass, and peripheral cues get more challenging

Frequency
Intensity
Time
Type
Volume
Progression

Flexibility training

At least 2-3 days a week for most adults. Daily is most effective. At least 10 mins per session. All major muscle groups hit with at least 4 stretch reps. Stretches should be held for 10-30 seconds.

RPE (Rating Of Perceived Exertion)

1	2	3	4	5	6	7	8	9	10

6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Very, very light

Very light

Fairly light

Somewhat hard

Hard

Very hard

Very, very hard

Start most new clients off light to moderate. Think talk but not sing. Gasping for words is vigorous intensity.

What RPE would you want for a static stretch?

6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Very, very light

Very light

Fairly light

Somewhat hard

Hard

Very hard

Very, very hard

What RPE would you want for a static stretch?

A: 13-15 mild discomfort not pain

6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Very, very light		Very light		Fairly light		Somewhat hard		Hard		Very hard		Very, very hard	

METS (Metabolic Equivalent of task)

Very light intensity: < 2.0 METS (RPE < 9)

Light intensity: 2.0-2.9 METS (RPE 9-11)

Moderate intensity: 3.0-5.9 METS (RPE 12-13)

Vigorous intensity: 6.0-8.7 METS (RPE 14-17)

Near max intensity: ≥ 8.8 METS (RPE ≥ 18)

Recommendations Cardio

Moderate Intensity: 30-60 mins 3+ days a week or 150-300 total weekly minutes

OR

Vigorous Intensity: 20-60 mins 3+ days a week or 75-150 total weekly minutes

More Recommendations

-You can do some of both

-Weight loss clients 50-60mins daily 250-300 weekly

-More advanced clients may be higher up on those ranges

-If you have to break up cardio try for multiple 10 min bouts

-Kids should do 60 mins of activity a day

-In terms of resistance training kids should start at age 7-8

Working with someone who is deconditioned or very new to exercise...

NEW!

Week 1: 10 mins twice a day | 60 mins weekly

Each week 15 minutes should be added until 120 mins weekly is reached. After that increase intensity for a couple weeks. Once they're used to that, add 15 mins per week again. Keep going to 200 mins per week.

The Session Components

Warm-up: At least 5-10 mins of low to moderate intensity cardio and muscular endurance activity

Conditioning: 20-60 mins of aerobic, resistance training, etc. You can build up from 10 mins if needed.

Cool-down: At least 5-10 mins of low to moderate intensity cardio and muscular endurance activity

Stretching: At least 10 mins after the warm-up or cool-down

Some Special Considerations Exist

Children 6yrs and older should do 60 mins of mod. to vig. activity daily. They should do bone loading activity 3+ days a week.

It's critical to include balance exercises in older adults plans. One set per exercise can be beneficial for anyone, (more is often better) but you're more likely to only do one set with older adults.

Periodization- A systematic planning of physical training. The aim is to reach the best possible performance for a specific time frame or event. You achieve this by changing up exercise variables when appropriate.

Macrocycle- The entire periodized plan. It can last up to a year or so.

Mesocycle- A specific block of training to achieve a specific goal. They're roughly a month long.

Microcycle- A week long block in a plan.

Linear Periodization

A traditional method of program design that aims to gradually increase the intensity of the training load while simultaneously decreasing volume over a set period of time.

Linear Periodization Phases

Hypertrophy High/mod vol, Low load, short rest

Strength and Power Mod vol, mod load, mod rest

Peaking Low vol, very high load, long rest

Recovery Low vol, low load, mod rest

Undulating Periodization

A programming scheme, also known as nonlinear periodization, that uses changes in volume, intensity, and exercise selection to provide loading differences on a daily or weekly basis.

So, know that linear periodization is a gradual increase of intensity and decrease of reps, and non-linear/undulating is more all over the place.

Hypertrophy Beginner

30% to 1-RM or 70-80% 1RM

6-20 reps | 1-3 sets

1-2 mins rest

2-3 days a week

Hypertrophy Trained

30% to 1-RM or to fatigue or 70-80% 1RM

1-12 reps, 6-12 usually

2-3 mins rest for heavy moves

1-2 mins rest for small moves

4-6 days a week

Muscular Strength Beginner

45-65% 1-RM AVG 60%

8-12 reps | 1-3 sets

2-3 mins rest for big moves

1-2 mins rest for small moves

1-3 days a week

Muscular Strength Trained

80-100% 1-RM Progressing to heavier loads 1-6 reps

Sets and reps more varied

2-3 mins rest for big moves

1-2 mins rest for small moves

Extended rest may be needed

4-6 days a week

Power Beginner

30-60% 1RM Upper 0-60% low

High velocity and low load

3-6 reps not failure | 1-3 sets

2-3 mins rest for big moves

1-2 mins rest for small moves

Novice: 2-3 days a week

Beginner: 3-4 days a week

Power Trained

85-100% 1RM for increase force

30-60% 1RM Upper 0-60% low

Performed explosively

1-6 reps | 3-6 sets

2-3 mins rest for big moves

1-2 mins rest for small moves

4-5 days a week


MATH

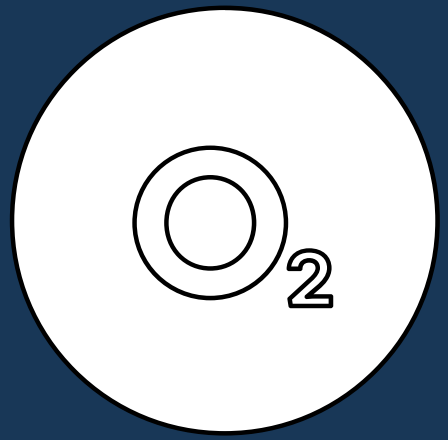
500-1000 MET . min . wk is recommended

Lets say we have a guy rowing at 7 METS, 3 days per week, for 30 mins. What are his rowing met mins per week?

7 METS x 30 mins x 3 days = <u>630</u> MET-min . wk

Converting METS to Calories

1 MET is equal to an Oxygen uptake of 3.5 ml . kg . min



METS X 3.5 X BW (KG) / 200 = KCAL/MIN

If we took our rowing guy who weighs 70kg...

METS X 3.5 X BW (KG) / 200 = KCAL/MIN

7 X 3.5 X 70 (KG) / 200 = About 8.6 KCAL/MIN

7 X 3.5 X 70 (KG) / 200 = About 8.6 KCAL/MIN

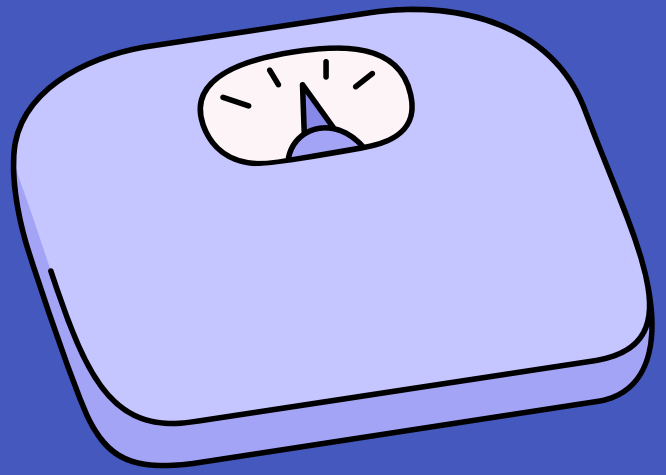
He's rowing for 30 mins 3 times a week so...

8.6 x 30 x 3 = 774KCAL . wk

To convert pounds to KG do...

Pounds x .454 = KG

So, 180 pounds = About 81.72KG



Mechanical Work Formula

(force x distance) x sets x reps

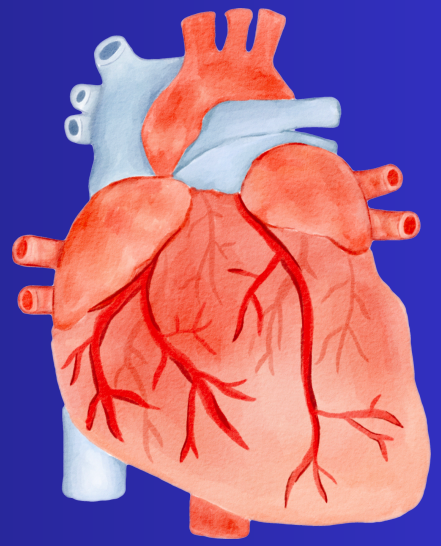
So, if I am benching 135 and each rep moves 3 ft. and I do 3 sets of 5 reps...

(force x distance) x sets x reps

(135 x 3) x 3 x 5= 6,075 ft . lb

HR MAX

220-AGE or 207-(.7 x AGE)



Light Intensity Range: 57-63% HRMAX

Moderate Intensity Range: 64-76% HRMAX

Vigorous Intensity Range: 77-95% HRMAX

HR MAX

220-AGE or 207-(.7 x AGE)

Moderate Intensity Range: 64-76% HRMAX

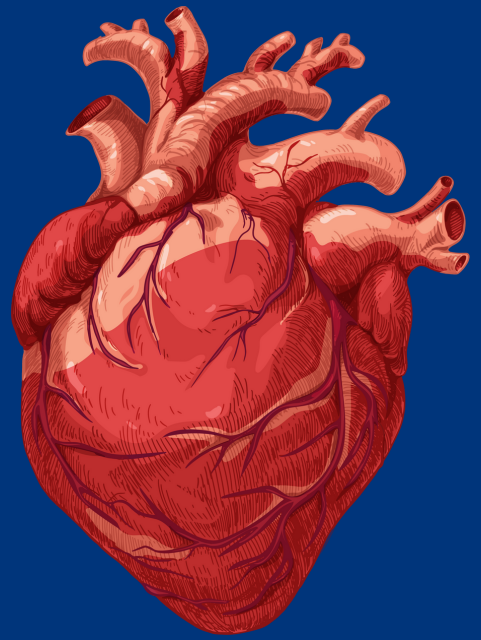
28 year old = 187HRMAX

187 x .64 = 120BPM

187 x .76 = 142BPM

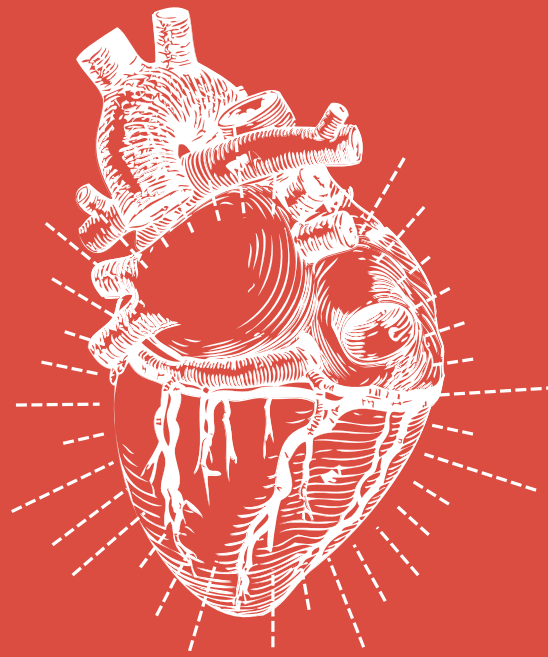
For apparently healthy individuals, you will often want to use a HR range between 70-85%.

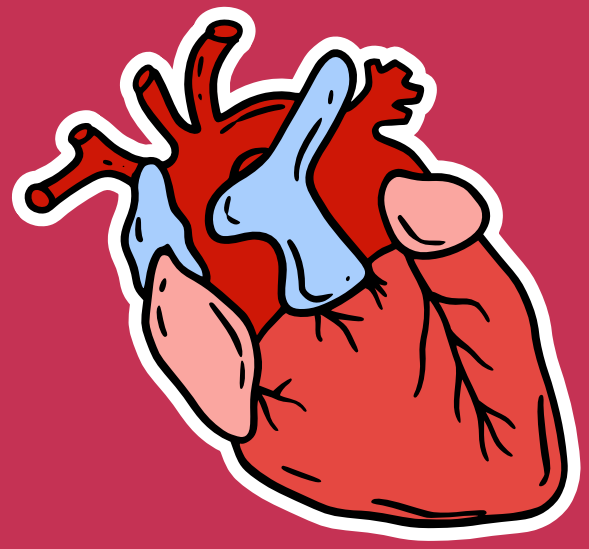
Sometimes it could be 64-95%.



PG. 434 for more details

Calculate your heart rate reserve (HRR) by subtracting your resting heart rate from your maximum heart rate. After that you may need to calculate a percentage.





Example: Age: 25

HRmax: 220-25=195 Resting HR: 65

195-65= 130 HR Reserve

Using Heart Rate Reserve and Target Heart Rate

130 HRR
65 RHR

THR= HRR x Int% + RHR

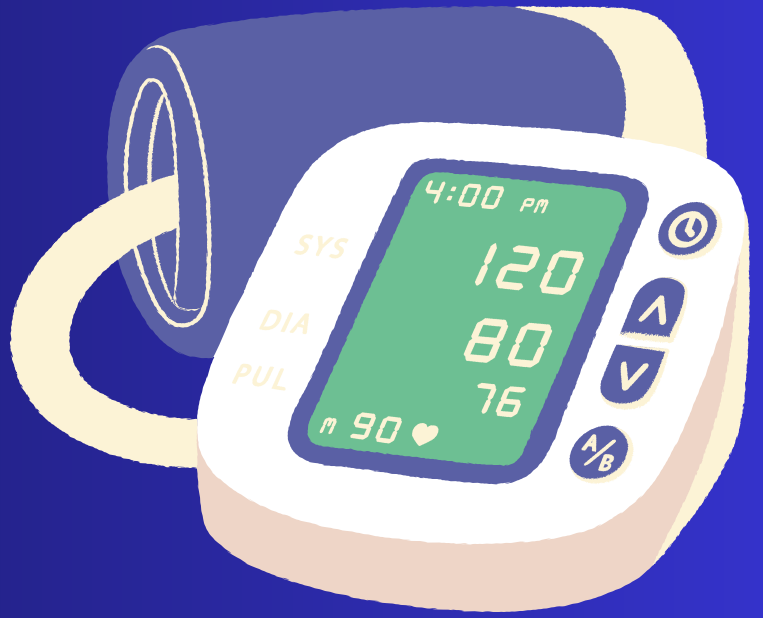
130 x .4 + 65= 117 BPM

130 x .89 + 65= 181 BPM

Assessments

Sequence Of Fitness Assessments

1. Resting cardiovascular measurements
2. Anthropometrics and body comp.
3. Cardio fitness
4. Muscular fitness
5. Flexibility or movement assessment



Subjective vs Objective

Subjective assessments would be things that reflect what an individual feels (PAR-Q,HHQ,RPE).

Objective things are quantified through data collection (blood pressure,HR).

BMI or Body Mass Index

Metric Units	**BMI** = Weight(kg) / [Height(m)]^2
English Units	**BMI** = 703 × Weight(lbs) / [Height(in)]^2

Conversion factor for lbs/in^2 to kg/m^2

Vertex42.com

703 x 180 / 70^2 = 25.82 BMI

BMI Ranges

under 18.5 – underweight

between 18.5 and 24.9 – healthy range

between 25 and 29.9 – overweight

between 30 and 39.9 – obesity

40 or over – severe obesity

25.82 BMI

Skinfold: 9 Sites

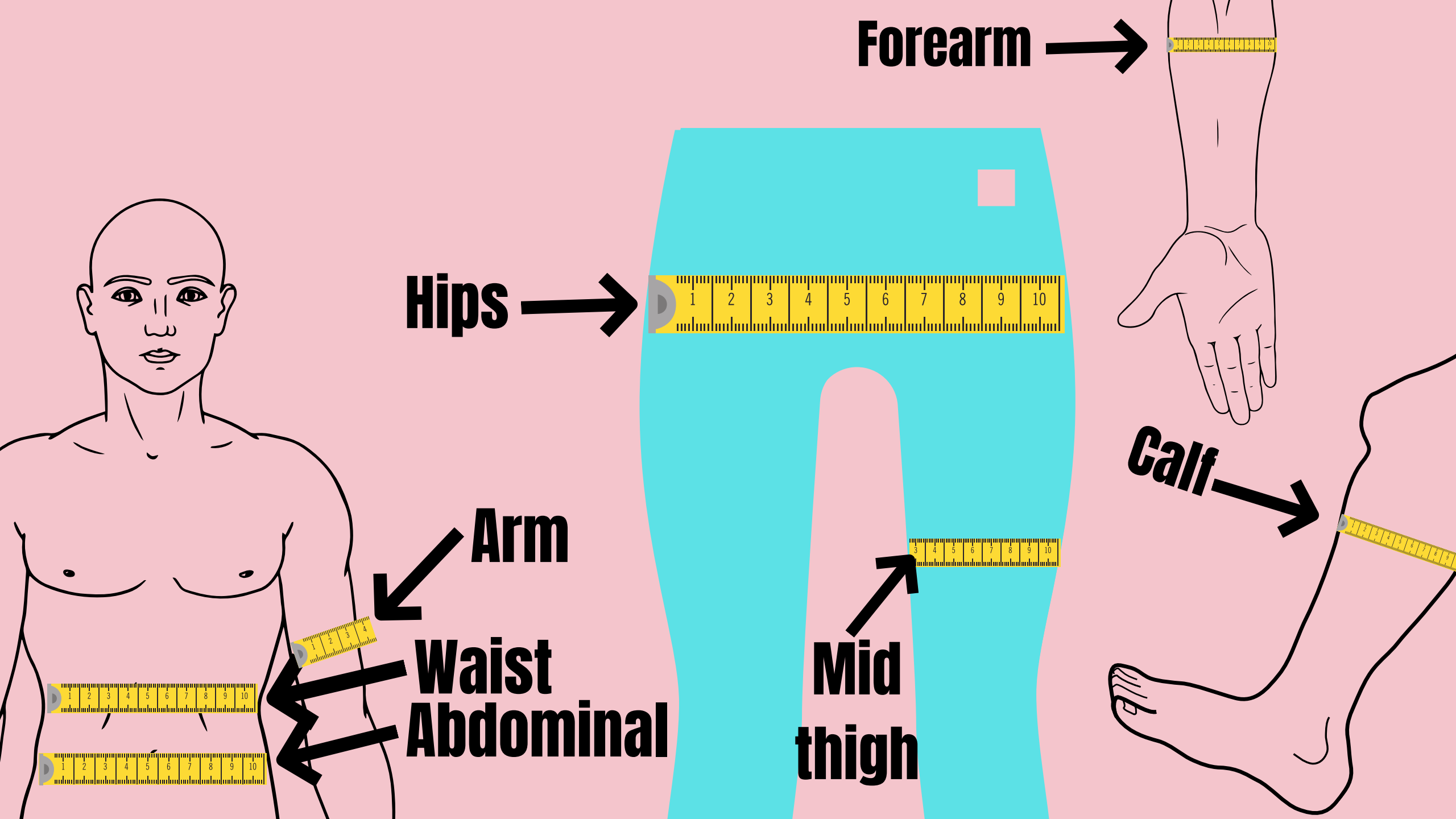
Abdominal, biceps, triceps, chest/pecs, calf, midaxillary, subscapular, suprailiac, thigh

3 site locations: Men (chest, abdomen, thigh)

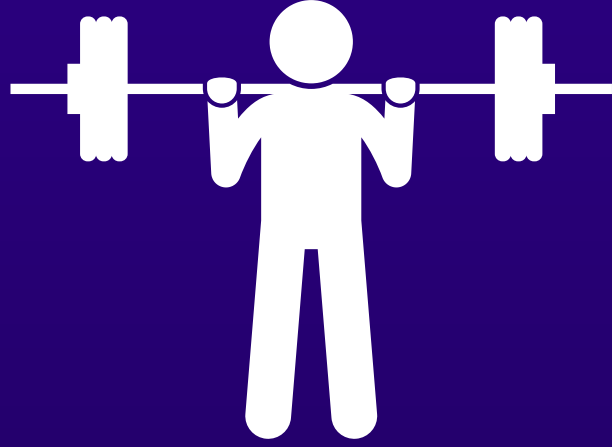
Women (triceps, suprailiac, thigh) PG. 331 for more

Bioelectrical Impedance or BIA

Determines body composition based on the rate at which an electrical current travels through the body. Bodyfat (adipose tissue) causes greater resistance (impedance) than fat-free mass and slows the rate at which the current travels. It requires specific testing arrangements.


Forearm
Hips
Calf
Arm
Waist
Abdominal
Mid
thigh

One Rep Max (1RM)



-Practice technique

-First warm-up set 5-10 reps 40-60% of estimated 1RM

-Second WU set after 1 min rest, 5 reps 60-80% Est 1RM

-Rest 2 min, Final 2-3 reps 90-95 1RM

-Rest 2-4 mins and begin 1RM testing, add 5-10lb for upper and 10-20 lbs for lower. 3-5 attempts ideal. PG 348

Estimating One Rep Max (1RM)

1RM can be unreliable for new lifters.

Weight divided by (1.0278 – 0.0278 × reps)

can be used to estimate 1RM.

Typically, you'll be aiming for 5-10 reps,

and using that to determine 1RM.

When in doubt don't do these assessments with people. Don't have clients do the valsalva maneuver.

Breathe out strongly through your mouth while holding your nose tightly closed. This creates a forceful strain that can trigger your heart to react and go back into normal rhythm.

Max Push-up Assessment

- The client lowers until the chin touches the mat
- Back must be flat and person must go to straight arm position
-Test is over when person forcibly strains or can't do 2 good reps in a row

VO2 max: The most valid measurement of aerobic fitness. Also known as maximal oxygen uptake, or peak VO2. This is not something that will be done with typical clients.

Highest death risk (from any cause)		49% lower	64% lower	76% lower	80% lower	
Age	Poor (lowest 25%)	Fair (25-49%)	Good (50-74%)	Excellent (75-97%)	Superior (top 2%)	Elite
18-19	<35	35.1 → 38.8	38.9 → 45.4	45.5 → 52.4	>52.5	80+
20-29	<28	28.1 → 34.9	35 → 40.2	40.3 → 49.9	>50	80+
30-39	<27	27.1 → 32.8	32.9 → 38.1	38.2 → 47.9	>48	75+
40-49	<25.9	26 → 31.4	31.5 → 36.3	36.4 → 46.5	>46.6	72+
50-59	<24.5	24.6 → 28.3	28.4 → 34.9	35 → 45.4	>45.5	58+
60-69	<21	21.1 → 24.4	24.5 → 29.7	29.8 → 38.8	>38.9	?
70-79	<17.5	17.6 → 20.9	21 → 24.4	24.5 → 34.9	>35	?
80+	<15.4	15.5 → 19.2	19.3 → 22	22.1 → 29.3	>29.4	?
	77%	91%	93.5%	96%	97%	10 year survi (from middle ag

Highest death risk (from any cause)		49% lower	64% lower	76% lower
Age	Poor	Fair	Good	Excellent
*18-19	<37.9	38 → 45.4	45.5 → 48.9	>49
*20-29	<36.3	36.4 → 41.9	42 → 47.9	>48
30-39	<35.2	35.3 → 39.1	39.2 → 45.4	>45.5
40-49	<34.6	34.7 → 38.4	38.5 → 43.7	>43.8
50-59	<28.9	29 → 34.9	35 → 39.8	>39.9
60-69	<24.7	24.8 → 29.7	29.8 → 34.9	>35
70-79	<21.3	21.4 → 24.4	24.5 → 29.7	>29.8
80+	<18.1	18.2 → 22.0	22.1 → 25.5	>25.6
	77%	91%	93.5%	96%

10-year survival rate (from middle age/50s)

*If you are 22 years old or younger, multiply your score by 0.85.

Otherwise your score comes out too high. The test was originally designed for ages 30-69.