**Body Building**

Benefits of body building

* Heart health
* Blood system
* Athletic Ability
* Capillary response faster to the muscle.
* Aerobic exercise, helps to heart pumping
* Improve bone density
* Improve calcium density.

**Nervous system**

* Sensory
* Integrate (Analytical skill)
* Motor function (respond to stimuli)

**3 Types of Neurons**

* Inter Neurons (nerve to another nerve)
* Motor neurons (from brain to other body)
* Sensory neurons (from body to brain)

“It is vital that the nervous system be properly trained to make

sure the right movement pattern are leaked”. Aka

Mind muscle connection.

**Muscle tissue**

* Cardiac
* Smooth
* Skelton

**Muscle types**

* Slow twitch (type 1)
* Fast twitch (type 2)

**Slow twitch**

Long-Endurance exercise better at using Oxygen less potential for growth.

**Fast twitch**

Short burst of energy

High intensity activity

More potential for growth

**Concentric contractions** Muscle shortens

**Eccentric contractions**  Muscle lengthens

**Isometric contractions**  remains Same

In every exercise there are four different functions

Of the muscles that are involved in the movement.

**Agonist**

Prime mover and target muscle

**Antagonist**

Opposing muscle acts in contrast to agonist

**Stabilizers**

Help keep joint and weight in place.

Eg:- When we do biceps curls

Biceps are the agonist

Triceps are antagonist

Various muscle like deltoids are stabilizers.

|  |  |
| --- | --- |
| Biceps  Deltoids  Pectoralis major  Rectus abdominis  Lipsoas  Quadriaps  Hip adductor  Tibialis anterior | Triceps  Latissimus dorsi  Trapezius  Erectar spinac  Gluteus maximus  Hamstrings  Gluteus medius  gastronemius |

**Agonist Antagonist**

Far auto muscular development

You need to have the right balance between

Both agonist and antagonist if one is much stronger than other, you can overpower and injure yourself.

**Client assessment**

Client’s lifestyle and fitness level , medical history ,body composition, strength , endurance.

**General assessment**

* Occupation
* Lifestyle and preferences
* Medical history

**Fitness assessment**

* Resting heart rate
* Bp, body fat , weight ,girth measurements.
* Postural assessment

**Workout makes good posture**

Lifting objects up with back straight and the shoulders upright. Firm footing with a wide stance.

**Flexibility assessment**:- by doing stretch

**Harward step test**

Commonly used endurance test checking heart rate after one minute compare with resting heart rate the close it will give the fitness level.

**Strength tests**

*Four main lifts*

* Squat
* Bench press
* OHP
* Deadlift

**1 rep max**

Not for beginner

Always do with the spotter

**Bodyweight training**

Not having progressive overload. Slows the results

**Training**

“if you don’t stress the muscle they won’t have to adapt , meaning they won’t have to grow”

**Diet**

“You need to provide your body with enough calories so it has the tools to build more muscle tissue “

**Rest**

Rest is must

Training+ enough calories +rest = result

**Right exercise**

* Compound movements
* Perfect form
* Progressive overload
* Forget more reps
* More reps increase stamina
* More resistance is key (more weight )

Cardio is good for lungs and heart

**Diet**

Calories are the bricks of muscle

**Rest**

Muscle don’t grow while you train, but afterwards

Get at least 7 hours of sleep

**Fat loss formula**

Consume less calories than you burn = weight loss

It’s almost impossible to gain muscle and lose fat at the same time.

Most athletes work in phases of two

Bulking and cutting

Cardio will not burn more calories.

**Muscle hypertrophy**

**Basic requirements:**

1. Stimulus : weight training
2. Enough calories
3. Enough protein

“skeletal muscle tissue is the most adaptable tissue in the body”

“During your workout you overload your muscles and damage muscle tissue when you rest, your body recovers and muscle growth takes place”.

1. Progressive overload (most effective) More sets/more reps/more weights
2. Muscle damage
3. Metabolic stress aka circle plasmik hypertrophy

Which we all know as the pump mainly what happens is that metabolic stress causes cells around the muscles to swell and this alone can help with muscle growth, even though it doesn’t directly increase the size of the muscle cells.

**Fundamentals of weight training**

Compound exercises are the king.

Always start gym routine with compound exercise it gives maximum muscle recruitment and more nervous system activation. Boost testosterone level.

**You don’t have to do**

* Change your exercises every few workouts.
* Do crazy rep schemes
* Focus on getting stronger each workout

“As much as you get stronger, progress will slow down.”

**Create perfect resistance training**

* Set workout goals.
* Training frequently

3 to 4 per week. This made muscle enough to cause hypertrophy and growth. “muscles don’t grow in gym, but afterwards”.

**Exercise selection**

Compound exercise (main lifts) focus on multiple joints and are usually performed with free weights instead of machines.

Always start with compound exercise it gives nervous system activation.

**Next assistant exercise**

**Upper body**

* Pull ups & rows
* Incline & decline press
* Side and front raises

**Lower body**

* Lunges, hack squat
* Split squads
* Good mornings

And lastly include one to two isolation exercises at the end of your workout.

**Isolation workouts**

* Curls, push downs
* Leg extensions
* Calf raise

Isolation exercises target only a specific muscle, which leads to less total fatique, so the greatest workout finishes when you are already tired.

**Weight sets reps**

Fewer reps == strength

More reps == endurance

**Intervals**

More you train for strength , so the heavier lift, longer the brakes should be.

More you train for endurance, the shorten your brakes should be.

**Keep progressing**

**Warm ups**

Lower risk & injury

Increase strength

**Don’ts**

* Too much cardio, they don’t prepare central nervous system
* Deplete your glycogen
* 5 minutes max
* Static stretch before workout
* Progressive warm up for sets for nervous system

**Cardio exercise**

Aerobic fitness, improve our body’s ability to take oxygen

Dynamic movements for prolonged time.

**Steady state cardio**

It usually performing aerobic exercise at a constant pace for certain amount of time.

eg:- jogging, biking, time 20min- 60min

**Circuit training**

Alternating between aerobic and anaerobic exercise.

eg:- jogging on running for a few minutes and doing pull ups a sits ups afterwards.

**HIIT {High intensity interval training}**

Performing different aerobic exercises and high intensity levels for a short period of time, followed by short resting time.

During rest period same exercise is done at lower intensity.

**Cross training**

More than one type of cardio

Eg:- through different types of equipment for cardio.

**Exercise mode**

What type of exercise you use to get your blood pumping.

“our goal for aerobic exercise is to become more efficient at processing oxygen.”

Any exercise that will one’s heart and breathing rate be considered aerobic exercise.

**Frequency**

How often your train

Duration

How long you train

**Intensity**

Target heart rate that should be maintained throughout the workout.

**Maximum heart rate**

Maximum heart rate is determined by a person’s age

220- Age = maximum heart rate

220-28 = ( 192 is mine).

Resting heart rate is between 60 to 100

**Pulse rate**

Count the beats your feel for 15s & multiply by 4

**Target heart rate**

Lower for beginners then go to advanced level.

Beta blockers can lower the overall heart rate and raising arms above your head leads to higher heart rate. This known as press response

**Fat reduction myth**

Spot reduction myth

* Attempting to become fat transform specific areas of the body performing exercises that target areas.
* You don’t need exercise to lose weight you can lose weight by just dieting but workout is essential, because by dieting only [caloric deficit ] losing of muscles.
* Do more and more cardio
* Doing too much cardio can wear you out quickly (fake theory)
* No pain no gain
* Exercise must be sustainable in order to be successful
* Exercise will turn fat into muscle

Muscle mass and fat are two different types of tissue.

* If women lift weights, they’ll become bulky

The average woman has a lot lower testosterone levels than the average man so their ability to build muscle will always be lower.

**Cardio v/s weight lifting**

The primary driver of weight loss in a calorie deficit, meaning consume less energy than regularly burn.

Cardio burn fewer calories than you think when we cardio continuously hbody adapts to the exercise to reduce calorie expenditure weightlifting causes more calories if we take shirt intervals.

But main thing is After burn effect

**HIIT Explained**

It is a form of exercising that alternate between periods of high intensity for recovery.

HI periods > push limit > metabolic limit

**VO2 Max**

Maximum volume of a oxygen that can use a major factor in determining your endurance level. In practise we use Vmax,

Vmax describes the maximum effort ( the point where you can’t hold a conversation comfortably anymore).

**Your HIIT workout**

* Reach and sustain your Vmax during your high-intensity periods.
* Repeatedly achieve and sustain this Vmax level of exertion.

**Types of cardio**

In general, any type of cardio can be used as a HIIT workout.

Focus on speed instead of strength

“what determines the effectiveness of a HIIT workout is the total minutes spent at a Vmax.”

**Optimal interval length**

About 50 to 60% of your T- max

T-max is the time of Vmax working out.

Low intensity period is 2:1.

**Flexibility**

**Static stretching** :- static stretching is a low intensity movement and when you spend 30 seconds on each stretch workout moving, you actually lower your body temperature.

“static stretching lower body temperature”

Make us in relaxation mood

“stretching should be slightly uncomfortable, but never be painful.”

Not stretching for so long (max 60s )” Not hold the breath

**Static stretching**

Traditional stretching

Bringing an isolated muscle or group of muscle to their peak position, and holding it there for 15 to 30 seconds

**Uses**

Improve flexibility

Stress relieves

Balance body

Post workout

eg:-

Seated back twist

Quad stretch

Hip abduction stretch

Hamstring stretch

Gluteal stretch , lat stretch

Calf stretch

Lying abdominal stretch

Neck side bend

Shoulder stretch

Triceps stretch

**Dynamic stretches**

Stretch is performed by moving through a challenging but comfortable range of motion repeatedly.

Prepare in a sport specific way.

More explosive power.

Prepares you mentally

Improves nervous system and motor abilities.

**Pre workout**

Eg:- jumping squat

Walking lunges

Knee tucks

Leg swings

Side lunges

Double butt kicks

**For upper body**

Normal arm circles

Normal arm circles -opposite direction

Large arm circles

Large arm circle -opposite direction

Push ups

Sara th sasidhar