GGIM
GUARDIAN GIRIPREMI
INSTITUTE OF MOUNTAINEERING

GIRIPREMI
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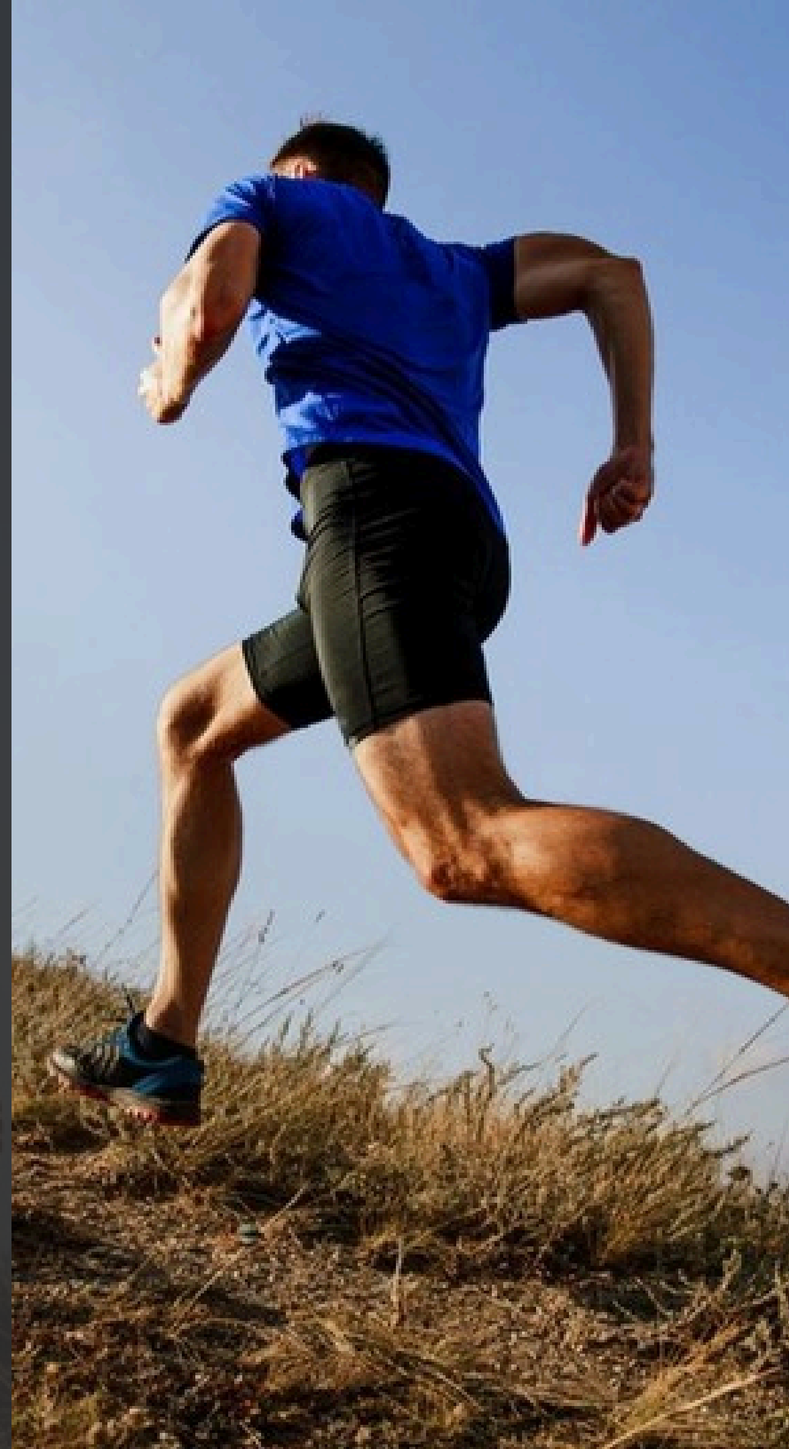
FOUNDATION

Fitness Preparation for High Altitude Treks

A scientific set of preparatory guidelines for the best experience

Are you training for a specific goal OR just performing a maintenance fitness regime to stay healthy?



TRAINING FOR HIGH ALTITUDE

TOPICS AND HIGHLIGHTS

- Training Goals
- Importance of Aerobic Endurance Training
- The idea of Supercompensation
- Principles of Fitness Training
- Fitness Training Components
- Sample Training Plans
- Q&A

An appropriate mountaineering training is a blend of aerobic, anaerobic, srength, endurance, flexibility, mobility, meditation, and adequate rcovery as per the goal set.

Training Goals for High Altitude Adventures

BEGINNER TREKS

altitude:
2500 m - 3500 m

Duration:
8-10 days

Preparation:
8-10 weeks

Examples:
Dayara Bugyal Trek
Chandrakhani Trek

MOD - DIF TREKS

altitude:
3500 m - 5500 m

Duration:
12-18 days

Preparation:
16-20 weeks

Examples:
ABC, EBC, KGL Treks
Tapovan, Goechala

BEGINNER EXPED

altitude:
5500 m - 6100 m

Duration:
12-15 days

Preparation:
20-24 weeks

Examples:
Kangyatse II, Mera,
Kilimanjaro, Elbrus

PROF EXPED

altitude:
Above 6200 m

Duration:
beyond 15 days

Preparation:
24 -52 weeks

Examples:
Mt. Island, Mt.
Aconcagua, Everest

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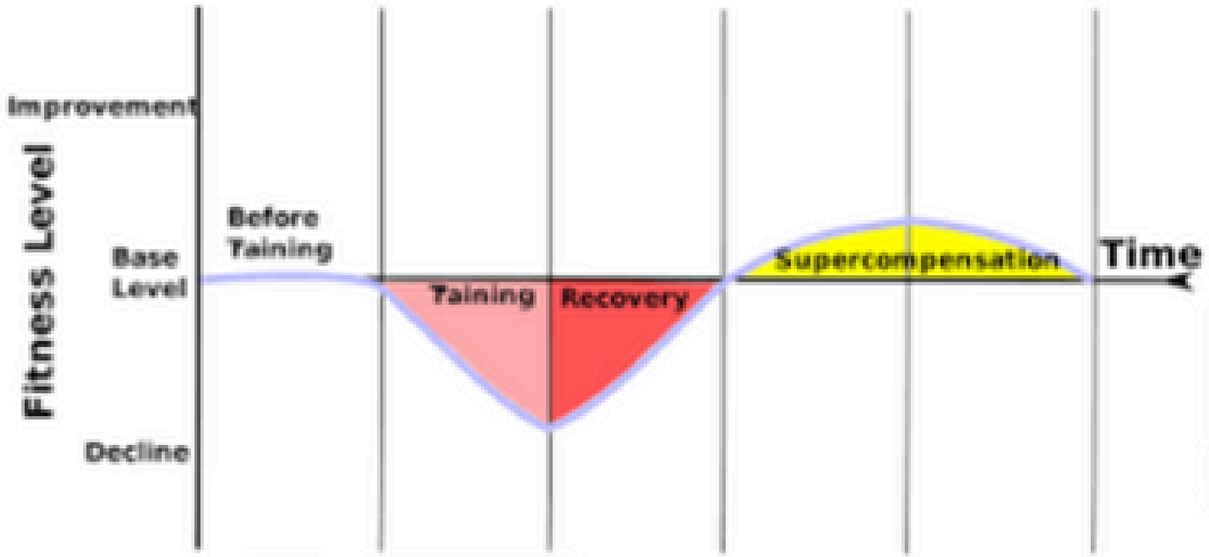
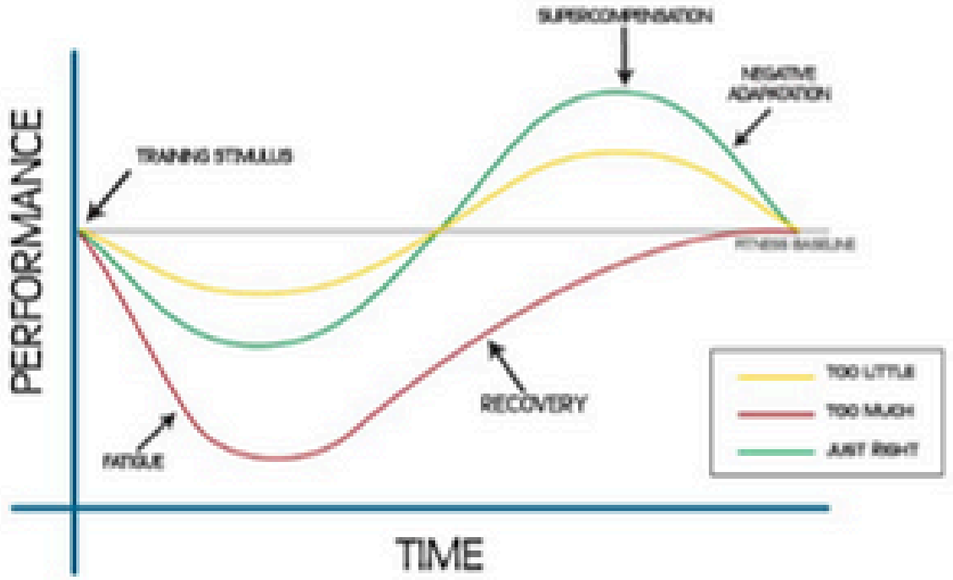
Benefits of High Aerobic Capacity

GLYCOGEN	RECOVERY	STRESS	HIGH ALTITUDE
Coserves glycogen stores and encourage fat burning	Helps in better recovering from physical exersions	Low oxidative stresses that encourages anti aging	New research hints that better aerobic high capacity is good for adapting to high altitudes better

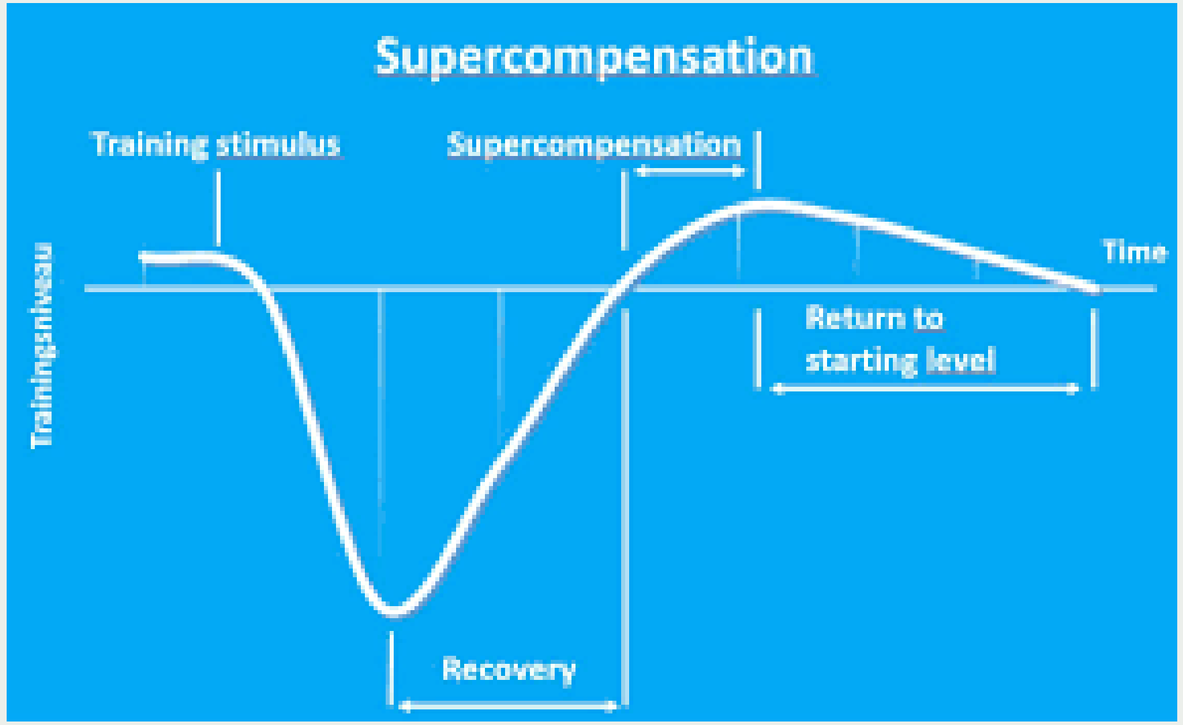
- Improving our aerobic capacity to continue efforts for more duration of time at 55-60% of your maximum Heart rate
- Developing Anaerobic Threshold (Lactate Threshold)- the point where our Body starts accumulating Lactic Acids

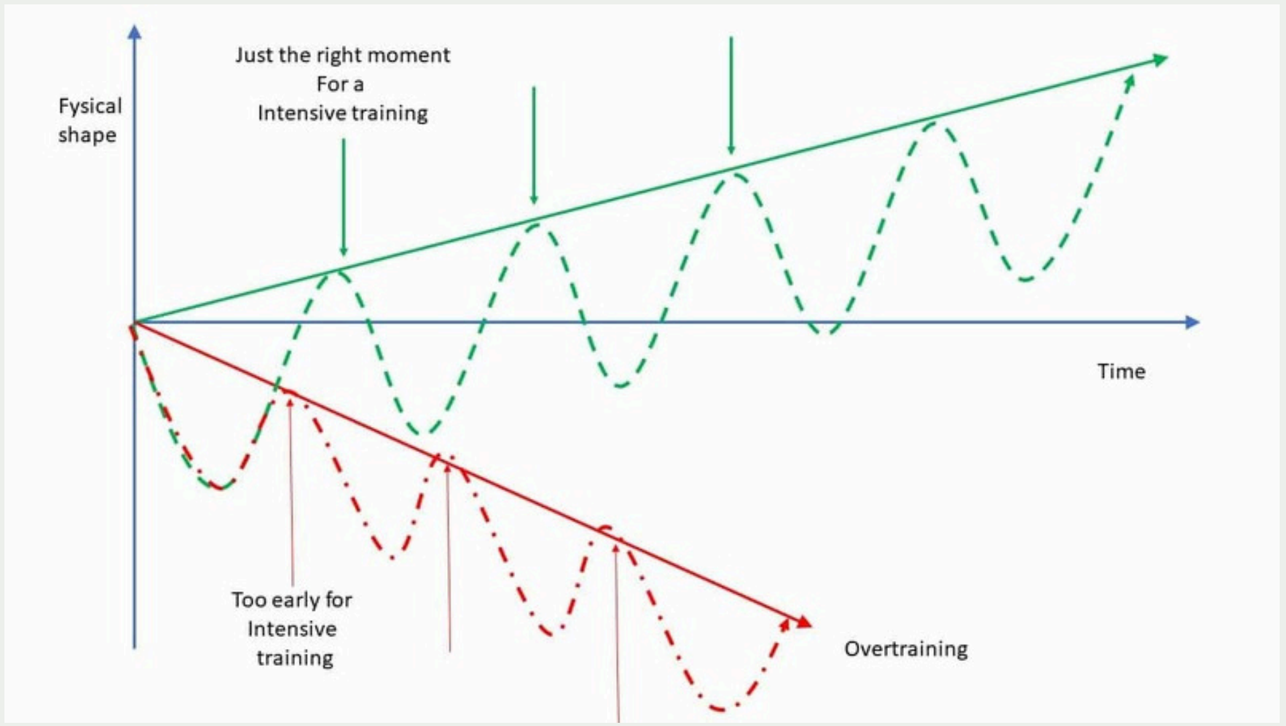




SUPERCOMPENSATION

Supercompensation is the adaptive response of our bodies to a training programme. In other words, by training hard and getting your work-to-recovery balance right, you will achieve better results.Each individual will have their own optimum level of exercise and recovery to increase their base fitness level over time.





Adaptation occurs only during the rest. If the next training stimulus is applied when the body isnt recovered, there can be overtraining, leading to a negative supercompensation

Principles of Fitness Training

INDIVIDUALITY

Every person is unique and requires unique set of training regime to achieve the desire fitness

SPECIFICITY

The training must be goal specific. If you are preparing for a Himalaya trek, swimming workout wont provide the results

PERIODIZATION

There should be periodization in terms of intensity, duration of activities as required by the specificity.

PROGRESSION

Training effect takes place only when you do it more than you normally do

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GRADUAL LOADING

Manipulating Frequency, Intensity, Time, Type (FITT) & complexity you can gradually manage the training load

REVERSIBILITY

Use it or lose it. Over 4 months of detraining can drastically reduce the fitness levels. Endurance is lost rather at a faster rate than the strength

VARIATION

Variation in training activities is important to keep the athletes motivated

REST & RECOVERY

Training adaptations occur only during the rest phase and not during the training

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Athletes who are sleep deprived are at risk of losing aerobic endurance and may experience subtle changes in hormone levels, which can lead to higher levels of cortisol (a stress hormone) as well as a decrease in human growth hormone, which is active during tissue repair.

Specific Training Component: CardioVascular

TREKKING

Best goal specific trainig

BRISK WALKING

Most suitable for improving the metabolism, overall health and recovery after training

RUNNING / JOGGING

Most ideal for improving cardiovascular strengthening and improving anaerobic endurance

Specific Training Component: Skeletal Muscular

VERTICALS WITH WEIGHTS

Do as much vertical climbing with backpacks as possible.

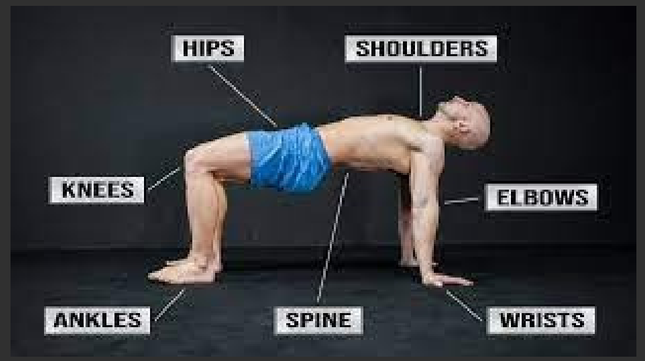
WEIGHT TRAINING

Should be performed under supervision. Helps in strengthening and toning of the muscles.

BODY WEIGHT TRAINING

Can be practised even at home. But recommended with guidance for the best results

Specific Training Component: Flexibility - Mobility



MOBILITY

mobility is the ability to actively achieve an extended range of motion dynamically. Mobility is essentially stretching the muscle using strength to control the movement through a safe range.

FLEXIBILITY

improve the ability of a joint to maintain the movement necessary for carrying out daily tasks and physical activity.

SAMPLE TRAINING 6 WEEKS

WEEK	MON	TUES	WED	THURS	FRI	SAT	SUN
BUILD AEROBIC CAPACITY AND STRENGTH							
• 1	30 min aerobic 20 min strength	60 min aerobic Trek with backpack. 5-6 kg	OFF	30 min aerobic walk/jog	30 min strength full body	OFF	Trek with backack 2-3 hrs
• 2	40 min aerobic 20 min strength	60 min aerobic Trek with backpack. 5-6 kg		40 min aerobic walk/jog	30 min strength full body		Trek with backack 3-4 hrs
• 3	40 min aerobic 30 min strength	30 min fast uphill Trek with backpack. 8-9 kg		40 min aerobic walk/jog	45 min strength full body		Trek with backack 4-5 hrs
BUILD ENDURANCE							
• 4	40 min aerobic 30 min strength	35 min uphill Trek with backpack. 10 kg	OFF	40 min aerobic walk/jog	30 min strength full body (Sport Specific)	OFF	Trek with backack 4-5 hrs
• 5	45 min aerobic 45 min strength	35 min uphill Trek with backpack. 12 kg		45 min aerobic walk/jog	40 min strength full body (Sport Specific)		Trek with backack 6-7 hrs
• 6	60 min aerobic	30min moderate speed aerobic 30 min strength		Cross Training cycling/swimming play any sport	OFF		Trek with backack 6-7 hrs

ATTENTION!

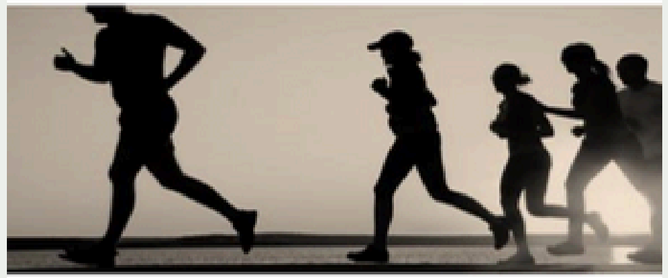
- Too much Exercise can be harmful.
- Proper method of doing Exercise needs to be learned from Experts
- Consult your doctor before starting any Fitness plan
- Exercise is beneficial with proper Rest & Proper Hydration & Nutrition
- Food supplements to be used with recommendation by medical/ nutrition advisor.
- Keep your body hydrated. Increase your water intake before going to high altitude.
- Do not hesitate to share your discomfort

RESOURCES FOR USE

SAMPLE 4 MONTH FITNESS TRAINING PLANS

GUARDIAN GIRIPREMI INSTITUTE OF MOUNTAINEERING

4 month Training Programme for Himalaya Treks



Hope you are excited for your upcoming adventure. But before you take on the actual challenge, let me tell you an important thing. There is a difference between doing general exercise and training for specific goal. Here, we are intended to pursue our Himalayan Adventure or any high-altitude expedition, a specific goal. So it needs training, a methodical training. And that is what we have tried to offer you here. We are sure you all have been doing some level of fitness activities to stay active and fit. But final four months are going to be very crucial in deciding your performance at high altitude. Here is a sample training module that you can follow on your own. You can modify add/reduce as per your fitness level.

1st 2nd 3rd 4th weeks: Enhancing basic fitness level

Stamina training: (Mon + Wed + Fri) you can opt for any of the following options. Variations will keep you away from boredom. You can choose any of the following aerobic activities

- Jogging (45 min)
- Trail run (uphill-downhill) 20-25 min
- Cycling (60 min)
- Step climbing (400 steps, approx. 1 ft.)

Strength training: (Tues- Thurs) after each set take a break of 45 sec before starting a new set.

- Push ups (2 sets of 10)
- Crunches (3 sets of 10)
- Pull ups (2 sets depending on your capacity)
- Squats (2 sets of 15)
- Plank position (2 sets : 30 sec) (Hold your body in plank position for 30 sec)
- Suryanamaskar (12)

Flexibility: Daily

- Stretching (to be performed before and after the session)
- Yog asanas (optional)

Mental preparations:

- Meditation
- Breathing exercises

Do 1 easy- moderate level trek

The quest of a mountaineer in the simplest terms is, for the Freedom of the Hills..

– Mountaineering
The Freedom of the Hills

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THANK YOU

WISHING
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