

Fitness Training – A Sensible Guide to Preparing for Selection in the Gurkhas

Background

Physical fitness has a number of components: aerobic endurance (stamina), strength, speed, flexibility, muscle endurance, power and agility. A training programme can be developed to improve one or more components of the physical fitness. In this context we are going to look at the aspects that are important to us: aerobic endurance (stamina), muscular endurance and flexibility.

Aerobic endurance (stamina) is defined as body's ability to perform for a prolonged period of time at a relatively low work rate. This type of training conditions the heart and lung, eventually improving body's ability to deliver and consume oxygen more efficiently. Examples of activities that improve aerobic endurance are running, cycling and swimming; but it should be done at a steady pace for at least 20 minutes. It is important to have a very good base of aerobic endurance, as it will help to train and improve other components of fitness.

Muscular endurance is the ability of a single muscle or a group of muscles to perform repeatedly against moderate to high resistance; for example, work of abdominal and hip flexor muscles during the 2 minutes sit up test. Muscular endurance is dependant on aerobic endurance, as the muscle needs supply of oxygen to perform rapidly. Body resistance circuit training is a very good way of improving muscular endurance. 2 – 3 sessions per week is recommended to improve muscular endurance.

Often forgotten or neglected yet equally important is **flexibility**. It is defined as a range of motion at a single, joint or a series of joints. Although not an obvious component of fitness it is important in injury prevention. Stretching exercises during warm up and cool down is enough.

What is required?

The British Army selection process demands a wide range of physical fitness tests such as stamina, muscular endurance and speed. The tests during the Regional Selection are mainly focused on muscular endurance and speed and the Central Selection focuses on aerobic endurance. Following are the tests conducted during Regional and Central selection.

Regional Selection:

- 800 metres run in 2 minutes 45 seconds or under.
- 12 heaves (under arms grasp).
- 70 Sit-ups in 2 minutes.

Central Selection:

- 1.5 miles (2.4 km) run in not more than 9 minutes 40 seconds.
- Stamina assessment – complete a 5 km route (height gain of approximately 450 meters) carrying 25 kgs in not less than 48 minutes.
- Swimming Assessment – Complete 20m in BGP Pool.

How best to train yourself for the selection.

Foremost, it is wise to identify what is it that you intend to achieve from the training plan. It is best to design a training programme based on your needs rather than following what others are doing. For example, if you can easily achieve 'sit ups' but struggle to perform heaves then the training programme needs to concentrate on strengthening your upper body strength. The training also needs to be monitored and adjusted, if necessary.

It is essential to design a progressive training programme to prevent injury. Training session should be made harder as the standard improves. Some form of record may be kept to check whether the training is progressing in the right direction. The table below is an example of a progress record. Don't be too ambitious.

Month	Heaves	Sit Ups	800m Run
May	5	40	4:00 minutes
Jun	8	50	3:30 minutes
Jul	10	60	3:15 minutes
Aug	12	70	3:00 minutes
Sep	14	80	2:40 minutes
Selection	16	85	2:30 minutes

Overload. The principle of overload is to increase the workload (for example, running time or running speed) so the body gradually adapts to the new increased workload which means stamina is improved and workload can be increased again. But one must be very careful about increasing the workload; too much increase could lead to injury and too little may not improve the fitness level.

Reversibility. If the training is stopped for a period of time the fitness level will decrease. It is necessary to take few steps back depending on the period of inactivity and re-start the training again.

Recovery. This is the time when repairing of damaged tissues caused by severe training sessions occur. This also allows time for energy replenishment for body. Training without recovery often leads to breakdown. An active recovery may be achieved by doing low intense activities or sports. The right nutrition helps to recover body more rapidly. For example, protein oriented food (dairy product, fish, egg) will help on the maintenance of damaged tissues and carbohydrate oriented food (rice, pasta, fruit juice, bread) will help on energy replenishment. Drinking water regularly will balance the level of body fluid preventing dehydration.

Planning a Training Session

A single session comprises of three main components: a warm up, main part and a cool down.

The Warm up. The main aim of the warm up is to prepare body for what is coming next or for the main bout. It can be between 10 and 15 minutes long. It starts with very low intensity activities like jogging, easy skipping. The intensity of activities gradually built up toward the end to at least the commencement of sweating. General stretching of the major muscles are also recommended at this stage. Stretching should be hold for 10 to 15 seconds and repeated 2 to 3 times for each muscle or muscles group. Bouncing and jerking motion must be avoided while doing stretching. Benefits of the warm up are:

1. To mobilize the joints preventing injury.
2. To increase heart rate gradually increasing blood flow.
3. To increase deep muscle and whole body temperature.

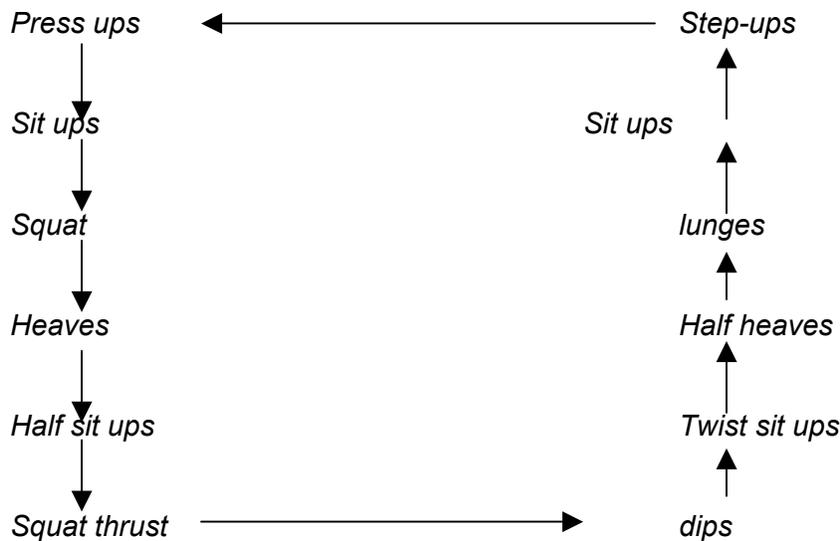
- To be psychologically prepared.

The Main Part. This is the part that gives the main training benefits. It should last between 20 to 50 minutes. If you are new to the fitness training then you should aim to conduct a 20 to 30 minutes session, increasing the period to 40 to 50 minutes, as you get stronger.

The Cool down. This is the final part of the session. It helps body to return to normal state. During exercises a large supply of blood goes to working muscles. It is important to return these blood supplies to the central circulation system. This can be achieved by reducing the intensity of work gradually. Activities like light jogging or walking for a few minutes will help to bring heart rate down gradually. Stretching of the major muscles should be carried out. Stretching should be hold for 20 to 30 seconds and repeated 2 to 3 times for each muscle or muscles group. A high level of 'flexibility' gain can be achieved by doing stretching at this stage.

Circuit Training

A circuit training is the arrangement of number of exercises in a series where a person goes round the circuit performing each exercises for certain period of time or certain number of repetitions. It can be planed in many ways targeting different aspects of physical fitness. Below is a layout of body resistance circuit:



Above is a 12 exercises circuit. The number of exercises may vary according to the individual's fitness level. Selection of exercises depends on the availability of resources and type of sessions. A person may start from any exercise on the above layout and follow the circuit around spending certain period of time on each exercise. For example, on first round: work 15 seconds on each exercise with 10 seconds rest between exercises. On second round: 20 seconds work on each exercise and 10 seconds rest between exercises. On third round: 30 seconds work on each exercise with 15 seconds rest in between. As the fitness standard increases alteration can be done on work period and rest period.

Run

A running session can be conducted in different ways, gaining different benefits. The main advantage of running is that it involves heart, lung and all the major muscles of the body hence is the very efficient way of improving aerobic endurance (stamina).

Slow Steady Run. Speed is maintained at moderate level for a period of time (as a rule of thumb, moderate level means you should be able to have a general conversation while running). Beginners should start with this type of session to establish the base of aerobic endurance.

Interval Training. This is a session where interval of work and rest is follow and is designed to improve fitness for middle distance. An example of interval training to improve 1.5 miles run time:

A football ground where a 400 metre circuit can be marked; or any safe, straight route on level ground with markers at 100, 200, 300 and 400 metres distances.

Warm up thoroughly for 10 minutes.

Sprint 400m and jog back 400m. Record the time. Repeat this 4 times.

Sprint 200m and jog back 200m. Record the time. Repeat 4 times.

Sprint 100m and jog back 100m. Record the time. Repeat 4 times.

Hill Reps is another way of improving speed and strengthening legs. An uphill route of 200 – 300 metres is required. The goal is to sprint up the hill as fast as possible and jog or walk back down. Repeat this for between 6 to 8 times but always adjust the length of the exercise according to your fitness level.

Load carrying sessions can be incorporated at the earliest opportunity. However, training should start with minimum weight (10 kg), gradually increasing the weight as the training progresses. The session should not last more than 45 minutes. As the body gets accustomed to the weight, pace should be increased to cover more distance on the same period. It is **not** advised to run with the weight as it puts more strain through the spin to the hips and knees, eventually leading to injury.

Improving Heaves and Sit-ups

Heaves cannot be improved by just exercising on beam continually; instead, it is better to exercise associated muscles of forearms, shoulder and chest individually. The result will be that all the muscles involved in performing heaves will grow stronger and collectively they will perform better. Same principle can be applied to improve sit-ups.

A Simple 6 months Training Programme

Month 1 (May)

Start with general conditioning of the body and conditioning of cardio-vascular system. 4 training sessions are good enough to start with.

Day	Activity
Mon	20 – 30 minutes steady run
Tue	20 – 30 minutes circuit training
Wed	Rest
Thu	20 – 30 minutes steady run
Fri	20 – 30 minutes circuit training
Sat	Rest
Sun	Rest

Repeat the above routine for the first month. Slight increase in time can be achieved but don't push too hard. 1 or 2 swimming sessions is beneficial if access to the pool is available.

Month 2 (Jun)

Now start putting more emphasis on muscular endurance and speed, maintaining the endurance level.

Day	Activity
Mon	Circuit training
Tue	Steady run (30 – 40 minutes)
Wed	Rest
Thu	Speed session (200m sprint 200m jog, repeat 8 times/100m sprint 100m jog, repeat 4 times and finish up with heaves and sit up session)
Fri	Circuit training
Sat	Run (30 – 40 minutes)
Sun	Rest

Month 3 (Jul)

Load Carrying should now be introduced. Remember start with minimum weight and increase the weight and pace gradually.

Day	Activity
Mon	Circuit training
Tue	Run (40 – 45 minutes)
Wed	Rest
Thu	Heaves and sit up circuit (First round: 10 heaves and 50 sit-ups. Second round: 8 heaves and 40 sit-ups. Third round: 6 heaves and 30 sit-ups. Fourth round: 4 heaves and 20 sit-ups. Last round: 2 heaves and 10 sit-ups. Take a 2 minute rest between rounds)
Fri	Hill reps
Sat	Walk 40 – 45 minutes with 10 kg finish up with heaves and sit up session.
Sun	Rest

Note: Increase the weight to 15 kg towards the end of the month but stay on flat route.

Month 4 (Aug)

Day	Activity	
	Morning	Evening
Mon	Circuit training (40 – 50 minutes)	
Tue	Run (40 – 50 minutes)	Heaves and Sit ups
Wed	Rest	
Thu	Interval training	
Fri	Circuit training (40 – 50 minutes)	
Sat	Walk 40 – 50 minutes with 15 kg. Select occasional uphill route. Increase the weight to 20 kg toward the end of the month.	Heaves and Sit ups
Sun	Rest	

Interval training, hill reps and resistance run can be done alternatively on a Thursday session to bring variation.

Month 5 (Sep)

This is a critical period as the Regional Selection is approaching. Make sure the target set is being achieved.

Day	Activity	
	Morning	Evening
Mon	Run (40 – 50 minutes)	Heaves and Sit ups
Tue	Circuit training (40 – 50 minutes)	
Wed	Rest	
Thu	Hill reps, interval session or resistance run	Heaves and sit ups
Fri	Circuit training (40 – 50 minutes)	
Sat	Walk 40 – 45 minutes with 20 kg, increasing the pace toward the end of the month. (Uphill route)	Heaves and Sit ups
Sun	Rest	

Month 6 (Oct/Nov)

After regional selection, training should be more focused on aerobic endurance (stamina) and strengthening legs.

Day	Activity
Mon	40 – 45 Minutes up hill session with various weight and various pace (Load carrying)
Tue	50 - 60 minutes run.
Wed	Rest
Thu	Hill reps, interval session or resistance run
Fri	50 - 60 minutes circuit training or run
Sat	Rest
Sun	Follow Monday's training
Mon	Follow Tuesday's training
Tue	Rest (Rest day after two training day)

On the load carrying session, try different weigh (15 – 25kg) each time and vary the speed. It is not necessary to carry full weight every time; 2 or 3 sessions with full weight will be enough. Body needs to be gradually conditioned to carry weight.

(Note: The above training programme is a guide only. The programme needs to be tailored to suit individual's physical strength and ability to adapt to training regime. Some adapt to aerobic training rapidly whilst others may find strength training easy to improve on.)

Injury Prevention

1. Always conduct a thorough warm up and cool down before and after any training session.
2. Have a progressive training programme. Start at the very base level and gradually increase the training intensity.

3. If training is stopped for a considerable period of time, don't jump in where you left. Go few steps back because fitness decreases with inactivity.
4. Having a good pair of training shoes also help. Training shoes with good cushioning help to absorb the impact off knees and ankles.
5. If any kind of pain is felt on a joint or muscle, taking few days rest to let it heal will be wise idea rather than train over it and make it worse. The principle of "No Pain No Gain" is a thing of the past.