

Safety

1. For infection control purposes ensure each person's band is kept in a sealed bag with their name on it.
2. Ensure the band is stored safely when not in use. Avoid putting it on the floor where it can be a hazard and also easily torn or weakened if caught under the foot or chair leg.
3. Check condition at the beginning of each session. Get each participant to hold the band wide and long ways so that you, and they, can check for tears or 'thin', worn areas.
4. Check condition more thoroughly every 2 weeks pre-session for tears or 'thin', worn areas by gently pulling and examining the whole length of the band. Check for stickiness/dust etc. If possible, cut off worn/torn area, or discard and replace band as appropriate.
5. Patients with a latex allergy should use latex-free bands or wear cotton gloves.
6. Cut the band into 2 metre lengths or longer if the individual is tall.
7. Do NOT overstretch the band by more than 3 times its resting length.
8. Ensure participants understand the importance of keeping the angle of pull of the band away from the head or eyes.
9. Do NOT tie the band around the leg(s) or ankle(s) when working in standing, sitting or prone; the risk of a fall is too high in older participants. This is a contraindicated activity.
10. Do NOT tie the band to any object that is not permanently fixed ie never use a table, chair or door etc. The risk of loss of balance and a fall is too high in older and inactive participants. This is a contraindicated activity. If working with individual, older athletes (sports specific training) it may be possible to utilize gym wall bars if secure and reinforced.
11. Warn participants of the danger of the band snapping, if damaged, and of the importance of checking regularly for damage, of keeping the band clean, dry and away from sharp objects (eg rings, fingernails) and not overstretching the band.
12. Warn participants that if a band does snap under tension, it will make a loud, startling, 'twanging' noise. Stress the importance of closing the eyes immediately on hearing the noise to avoid any possibility of the band contacting the eyes. Demonstrate this in the first session and assure them this is noisy but usually harmless. Ensure they practice keeping the band below the shoulders, away from the head and shutting their eyes when they hear the simulated snapping noise. If any individual is unable to perform any exercise safely, protective eyewear should be worn or weights should be substituted for the band.
13. Ensure the band is held lightly (not gripped so tightly the knuckles are white). Also ensure the band is held and the end is free (not wrapped several times around the palm, fingers or forearms, which may act as a tourniquet!)
14. Ensure the participant only pulls with a resistance band for a maximum of 5 seconds and does not hold their breath. It is a good idea to ask them to count out loud (quietly) to 5 to ensure they are not holding their breath. When they relax the band, this should be done in a controlled manner.
15. Ensure the band is kept as wide as possible on all exercises, especially the outer thigh exercise, to minimize any restriction of circulation.
16. Ensure the wrist is firm and straight and the elbow is soft (not locked) in all exercises involving the extension of the arm and that the knee is soft (not locked) in all exercises involving extension of the knee.
17. Ensure all participants begin with the lightest band for a minimum of 2 weeks to learn the exercises.

Effectiveness

Progression Guidelines:

- Remember strength varies from muscle group to muscle group so some individuals may need different bands for different exercises.
- Weeks 1-11 (Skilled Up):**

For the first 2-3 weeks, use the lightest band for all participants. At week 4, identify which band each participant can pull with 'strict form' 10 times (ie their 10 Repetition Maximum (RM) or 60% of their 1 RM) yet is beginning to fatigue as they reach the 10th repetition. Work for 2/3 weeks with this band then reassess.

If they can now reach 12 reps with 'strict form', progress to the next resistance. After 2/3 weeks, reassess again and progress as above.
- Weeks 12-33 (Training Gains):**

At week 12, identify which band each participant can pull with 'strict form' 8 times (ie their 8 RM or 70% of their 1 RM) yet is beginning to fatigue as they reach the 8th repetition. Work for 2/3 weeks with this band then reassess. If they can now reach 10 reps, progress to the next resistance band. What was 70% is now only 60% as the stronger they are the easier it is to lift the same load. After 2/3 weeks, reassesses again and progress as above.
- At approximately week 18-20, progress by identifying which band each participant can pull with 'strict form' 6 times (ie their 6 RM or 80% of their 1 RM) yet is beginning to fatigue as they reach the 6th repetition. Work for 2/3 weeks with this band then reassess. If they can now reach 8 reps, progress to the next resistance, then reassess and progress the resistance only. Further progressions are therefore increased resistance of band only at no fewer than 6 repetitions. 6 repetitions at high resistance (80% of 1RM) is as high as we recommend for health related strength training.
- Progression to free weights will provide a larger range of progression.

Special Considerations

For people with arthritis that affects the hands:

- Cut the band longer than usual (to approximately 2.5 metres).
- No band at all for the first 2 weeks.
- Work isometrically not isotonicity – particularly important for patients with arthritis/neck/shoulder problems.
- Do not introduce more than one exercise for the affected joint complex at a time, monitor and once no adverse effects are assured, then introduce the second exercise for that joint/area with caution.
- The instructor should wrap/assist the participant in wrapping the band loosely around the hand, wrist and forearm to reduce compression on the joints of the hand.
- For the wrist squeeze, twist and pull, a useful alternative is to fold the band to a thick face cloth size and press the band between the palms, then between the back of one hand and the palm of the other.
- As before, people with rubber and similar allergies – use latex-free bands or wear cotton gloves.