CHAPTER 11

Knowledge Review

Q1: Why are taping and strapping skills important for the sports therapist to develop?

A1:

It is important for the sports therapist to develop taping and strapping skills because they can be used in first-aid situations, where bandaging can help to prevent unwanted movements of injured musculo-skeletal structures or to provide compression of soft-tissues, and in rehabilitation settings, where taping and strapping can be used to completely or partially immobilize joint movements and allow the client to perform remedial exercises without aggravating the injury. Taping can be used to help improve proprioception, biomechanical problems, and assist the athlete with a faster return to activity. Taping and strapping is also widely used to help prevent re-injury or help prevent new injury during participation in sports.

Q2: What is meant by the following terms: i] taping ii] strapping iii] bracing iv] orthotics v] supports

A2:

i] Taping is the use of a variety of different types of adhesive rolls of tape for a selection of therapeutic purposes [eg. elasticated; non-elasticated; air-permeable; water-resistant; hypoallergenic; tearable; wide; narrow; etc.].

ii] Strapping is the application of non-adhesive straps [or wraps]. These may be elasticated or non-elasticated. Strapping may be performed with or without the use of adhesive tape, and straps may or may not feature mechanisms for

tightening up. Straps are generally made from a cloth material, and they may be purpose built or simply different sized straight rolls for general applications.

iii] Bracing is the specially designed support for a joint. They tend to classified as being preventative [prophylactic], functional or rehabilitative. A preventative brace is designed to restrict potentially harmful movement that might be a cause for concern in a particular sport, functional braces are designed to allow training to take place, but keep problematic joints to a relatively safe range of motion, and are often used by athletes with some instability, and rehabilitation braces are usually used following reconstructive joint surgery, and these offer either complete immobilization or restriction to a particular range of movement. Braces are typically comprised of a variety of materials, including moulded plastic, metal framework, cloth straps and foam cushioning, and the more technical devices may be very finely adjustable, allowing good control of degrees of positioning or movement. Most bracing procedures are usually based on the recommendation of an orthopaedic consultant or physiotherapist.

iv] An orthotic is any form of supportive device for the musculo-skeletal system, but more commonly orthotics tend be referred to as shoe inserts or modifications, designed to help correct, control or support problematic foot motion. These are either semi-rigid or flexible, and are normally custom made from a mould, although over the counter orthotics are available. Rubber heel pads or cups are also useful for absorbing heel strike impact or relieving stress on the Achilles tendon. The measuring for and preparation of custom made orthotics is a specialist skill requiring appropriate training, and biomechanist, podiatrist [chiropodist] or physiotherapist specializing in such

procedures should be sought when it is felt that custom made orthotics will be helpful.

v] Supports are specially designed items of equipment offering support to a particular body region for a specific purpose. They are typically made from thickly woven slightly elasticated cloth. The support required might be to help restrict certain movements, to help keep a body region warm [heat retainer] or to help stabilize a body area. They may be specifically recommended by an orthopaedist, physiotherapist, coach or sports therapist, or they may be simply bought over the counter by the player themselves. They are typically worn only during activities that may stress weakened or recovering problems. Well-designed support products are now affordably available for most problematic body regions [eg. lumbar; sacral; shoulder; elbow; wrist; knee; ankle].

Q3: What are the basic items of equipment required to provide therapeutic taping?

A3:

The basic items of equipment required to provide therapeutic taping includes:

1. Bandage scissors [household scissors are too dangerous].
2. Tape cutters [specially designed to access tape already applied to the skin].
3. Zinc oxide adhesive, non-elastic tape [several widths, 3.75cm probably being the most useful].
4. Adhesive, non-elastic tape [several widths, from 1.5 -10cm].
5. Adhesive, elastic tape [several widths, 2.5 and 7cm being the most useful].

6. Cohesive tape [useful because it adheres to itself and not the skin, is quick to apply, and is reusable].
7. Underwrap tape [a thin polyurethane foam material, adds padding and protection, and reduces amount of adhesive contact with the skin].
8. Heel and lace pads [thin foam squares, positioned over areas vulnerable to friction and blisters, such as the dorsum of the foot].
9. Padding made of surgical felt, cotton wool or foam rubber [to fill out uneven regional contours, or to create localized compression to affected tissues, eg. a cut-out “horseshoe” for the ankle].
10. Astringent skin preparation [can help prevent irritation, ensure that the taping stays in place, and makes its removal easier].
11. Lubricating ointment, such as petroleum jelly [for reducing friction over sensitive areas such as: Achilles tendon; dorsum of foot; popliteal space; cubital space].
12. Gauze squares [lubricating ointment can be applied to the gauze, by a spatula, and then placed over the sensitive area].
13. Adhesive spray [strengthens the tape job, helping underwrap, pads or tape to adhere to the skin more easily, also useful in humid or wet conditions].
14. Tweezers [useful for aligning taping components].
15. Tape remover, typically a [dehesive] spray [helps make tape removal more comfortable by dissolving adhesive]. Specialized wipes are also available to aid in the removal of adhesive residue.

Q4: Describe the key safety issues relating to taping and strapping.

A4:

The key safety issues relating to taping and strapping include:

1. Assessing the region thoroughly before deciding that taping is the most appropriate intervention.
2. Being sure of the therapeutic objectives.
3. Being aware of all possible contra-indications.
4. Not using adhesive tape directly on acute injuries.
5. Storing all taping materials hygienically in a dry, cool place [rolls of tape are best stored standing on their ends].
6. Checking for allergy to tape, adhesive spray and adhesive remover.
7. Not taping over an area that has been iced [the tissues may increase in size as they warm up] or heated [tissues may diminish as they return to normal].
8. Preparing the area of skin to be taped [wash, dry and shave hairy skin, and apply a mild astringent].
9. Taking care to make sure that the tape job is neat, free of wrinkles, not stretched tightly over skin, and comfortably supportive. If it is not right, make it so.
10. Never completely encircling a limb with non-elastic tape [keep in mind that muscles must have room to contract and relax].
11. Avoiding excessive tightness [firm, not tight].
12. Being careful not to tape tightly over bony prominences.
13. Always checking for comfort and circulation following taping application [pinch toes to check for return of colour].

14. Not keeping taping on for long periods, and no longer than 2-3 days [remove tape immediately after training].
15. Taking great care when removing tape [use tape remover; cut through layers of tape with tape cutters; pull the tape back on itself slowly, rather than "ripping it off" quickly].
16. Cleaning the area with antiseptic wash after tape removal.
17. Not encouraging premature return to activity.
18. Discouraging over-reliance on taping.
19. Always following conventional approaches.
20. Offering after care advice to the person receiving the taping [eg. recommend tape removal if abnormal skin reactions or swelling are observed].
21. If in doubt about whether to tape, don't!

Q5: What is the purpose of the following: i] anchor strips ii] underwrap iii] stirrups iv] compression strips v] cohesive wrap vi] spica wrap

A5:

i] Anchor strips are those strips of tape that are firstly applied to the skin, strategically so that additional strips can be applied more effectively [usually above and below the main focus area]. Anchors are normally made from elasticated, adhesive tape, and do not usually completely encircle a limb, unless applied with low tension. Anchors help to minimize traction on the skin.

ii] Underwrap tape is a thin polyurethane foam material which adds padding and protection, and its main function is to reduce the amount of adhesive contact with the skin.

iii] Stirrups are support strips that help to restrict lateral movements of joints. They are typically “U-shaped” loops which are applied more tightly on the affected side of a joint.

iv] Compression strips are the short lengths of tape that can be placed over the underlying layers of underwrap and low tension elastic tape. They apply focused pressure over a muscular injury site, and should be repeatedly overlapped several times, horizontally distal to proximal. The tension of compression strips should be released at the end of the strip.

v] A cohesive wrap is made with tape that adheres to itself and not the skin. It is quick and easy to apply, and is reusable. Commonly used at the ankle and wrist.

vi] A spica wrap is a method that wraps a strapping around two adjacent body areas to secure and support a region between the two. It is characteristically, a continuous looping technique, in a figure of eight pattern, that can be most effective for providing gentle compression and support as well as restricting movement to a safe range. Spica wraps are commonly used to support a shoulder, groin, hamstring or thumb strain or sprain.

Q6: Describe when and how adhesive tape should be removed.

A6:

No adhesive tape job should just be left on indefinitely. Taping must be removed either immediately after training or competition, or at least after 2-3 days. If necessary, reapplications can be provided, but it is usual to allow the skin a period of recovery. Great care must be taken when removing tape. A tape removal spray [dehesive] is recommended where the tape is difficult to

remove. A tape cutter is a specially designed cutting tool that should not injure the skin. This can be used to cut through the various layers of tape on the bigger jobs. When removing the tape, it should be pulled back on itself slowly, rather than ripped off quickly]. Dehesive wipes could be used to remove any adhesive residue still remaining on the skin. The area of affected skin should be cleaned with antiseptic wash after removal of the tape.