The sports physician and medical support personnel providing cover at a sports event must be prepared for any form of emergency. Preparation makes the unexpected less catastrophic and allows immediate, efficient medical care. Procedures and equipment relevant to the event, and possibly extra personnel, must be included in the planning.

**POINTS TO CONSIDER**

- Type of sport covered
- Age of participants and probable emergencies
- Infrastructure of the country in which the sports event will be held
- Type of medical bag
- Contents of the bag — equipment, paperwork, communication devices, and drugs
- Easy emergency access, avoid accidental use of banned substances
- How to obtain supplies at the venue, and consider foreign registration of your qualifications
- Product liability across borders — be in possession of the required customs documentation
- Controlled drugs — obey rules of country of sports event
- Insure the sports bag and keep it secure at all times.

**Type of sport**

You have to consider the type of sport and type of injury you will most likely be confronted with. Travelling with a swimming team or Tae-Kwando team will certainly determine the content and amount of trauma treatment equipment needed. Covering an endurance event involves getting to check points, and preparing for thermal injuries or dehydration. Is it a single-code tour or a multicode tour, such as the Olympic Games you have to cover? Each sport has its own injury profile with which the travelling physician will have to familiarise him/herself, as well as medical procedures determined by the sport. For example, in boxing the competitors are pre-examined and an international hockey competition will not start before a doctor and the emergency personnel are available on the bench.

**Participants’ age and emergencies**

One should know the average age, gender and physical ability of the participants and accompanying officials. One may have to handle a threatened abortion, myocardial contusion, myocardial infarction, kidney stones, a dislocated ankle or a spinal injury. Participants in veteran games may present with medical pathology, more chronic medication use and a specific injury profile. These are true scenarios from two previous Olympic Games.

**Country**

To which country is the team travelling? Whether one travels to Nigeria for the All African Games as opposed to Kuala Lumpur for the Commonwealth Games will influence the type of bag packed. What is the local medical support like? Will well-equipped ambulance and paramedical support be available? Remember that you have to be able to carry everything you pack! Consider the weight of your own luggage, as there is often little help.
How is the team travelling to the sporting event — by boat, by train or on a 16-hour flight from Johannesburg to Atlanta? Consider medically catering for 86 athletes, team officials and members of the press from your hand luggage.

**Type of medical bag**
The traditional briefcase-type medical bag is too small. One cannot carry it over one’s shoulder and walk 4 - 5 km in a large stadium or during an endurance event. The case should have ‘cut-outs’ to protect glass medicine vials and small separate compartments to facilitate finding things in a hurry. ‘See-through’ compartments are recommended, as well as loose removable pockets with zips. A ‘tool-box’ type suitcase or paramedic bag with shoulder straps is ideal, and must have a lock. It’s not easy being stranded in a foreign country with no medical supplies and to have to try to replace sophisticated medical stock.

**What equipment?**
Checklists of equipment needed are given in Table I.

**On-person panic kit**
This separate grab pack, money-belt style, should include the following:
- oropharyngeal airway
- Loerdal pocket mask
- absorbent sponges/gauze
- examination gloves
- bandage/trauma scissors
- (multi-purpose tool)
- penlight
- pen and paper
- resuscitation shield
- stethoscope.

**Emergency drugs**
- Atropine sulphate 1 mg pre-filled syringe, or 0.6 mg/ml. Give 1 mg intravenous injection, maximum 0.04 mg/kg. Repeat every 5 minutes
- Adrenaline 1 mg/ml subcutaneously or intramuscular injection. Adults 0.2 - 0.5 ml, children 0.1 - 0.3 ml
- Epinephrine (1:10 000) pre-filled syringe, 1 mg/ml diluted to 10 ml intravenous injection, maximum 0.2 mg/kg. Epipen 0.3 ml intramuscular injection > 45 kg
- Glucagon 1 mg and solvent, 1 mg subcutaneous/intravenous/intramuscular
- Lignocaine 20 mg/ml, 20 mg vials
- Sodium bicarbonate 1 mg eq/kg bolus, 50 ml
- Naloxone hydrochloride 0.4 mg/1 ml, dose 0.4 - 2 mg
- Nitroglycerin spray — lasts longer than tablets, 1 second spray every 5 minutes
- Water for injections 10 x 10 ml
- Corticosteroids: dexamethasone shock pack 20 mg/ml, methylprednisolone 40 mg/ml
- Aminophylline 250 mg/10 ml
- Inhalers: salbutamol and steroid
- Buccal prochlorperazine
- Painkillers: pethidine
- Inhalers: salbutamol and steroid
- Aminophylline 250 mg/10 ml
- Insulin syringes 1 - 5 mg/kg/min
- Mannitol 10 mg vial
- Magnesium sulphate 1 mg/1 ml, dose 2 - 4 mg intravenous injection
- Aspirin 160 mg/300 mg chew tablets
- Beta-blocker: atenolol 5 mg slow intravenous injection
- Adenosine 0.1 mg/kg - 6 mg, then 12 mg intravenously after 2 min or verapamil.

**What to put in the bag**
- Paperwork and cellular phone
- List of telephone numbers (team officials/local medical support)
- Prescription pads
- Medical certificates
- Letterheads and envelopes
- Map of area/emergency network plan and contact numbers
- Dictating machine and tape
- Local pathology and X-ray forms
- Cellular phone model acceptable in the specific country with local sim card. Two-way radio system.

**What else to include**

**Additional drugs**
Check for expired drugs every 6 months. Store drugs at the correct temperature (4 - 25°C). Sufficient supplies or access to additional supplies is essential. Pack at least one medication from each pharmacological classification so that you are prepared for any medical problem. Find out if any of the team members are on chronic medication and ensure that they carry their own supplies. Athletes can also compile their own medical travel kit containing basic medication, braces and straps. This will lighten the load on the stock carried by medical personnel, especially multi-coded sports teams. Ensure that they do not carry banned substances, and review their medical report forms where they have to declare all drugs they carry. They could pack the following medication: an antinauseant and antidiarrhoeal, a simple painkiller, an antihistamine, an antacid, a nasal spray, throat lozenges, brompheniramine or ephedrine tablets, a non-steroidal anti-inflammatory drug, one course of a broad-spectrum antibiotic, a topical antiseptic, and wound cover.

**Some notes and tips on additional medication**
- Antacid; H2 blocker: Acute situations are common in competition. An injectable form of an H2 antagonist is useful.
Travelling with a swimming team or Tae-Kwando team will certainly determine the content and amount of trauma treatment equipment needed.

- Analgesia — soluble paracetamol, consider sublingual preparations.
- Antibiotics — include at least one antibiotic other than penicillin.
- Antihistamine — sublingual prochlorperazine.
- Oral rehydration powders and intravenous rehydration solutions.
- Vitamins — intravenous vitamins and iron can be very useful as legal performance enhancers.
- Wound covers — blisters/abrasions/open wounds, especially in the case of cyclists and hockey players.
- Salbutamol/steroid inhalers.
- Influenza A and B treatment (zanamivir) early in an infection can prevent progress of the disease and is of great importance to the competitor. Less training time will be lost and the risks of complications are reduced. At the Sydney Olympics the medical team used a similar product, with great success.
- Steroid tablets (equivalent to a total of at least 100 mg prednisolone).
- Sleeping tablets for use during travel and before competitions.
- Diuretics (banned). Do not be

### Table I. Checklists of equipment needed

<table>
<thead>
<tr>
<th>Diagnostic equipment</th>
<th>Wound closure strips, wound closure material</th>
<th>Tube of Superglue for superficial cuts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stethoscope</td>
<td>Syringes — 3 ml/10 ml/20 ml — with needles</td>
<td>Butterfly</td>
</tr>
<tr>
<td>Blood pressure meter — 2 cuff sizes</td>
<td>Butterfly</td>
<td>Razors</td>
</tr>
<tr>
<td>Oto/ophthalmoscope</td>
<td>Bandages — crepe, triangular</td>
<td>Foley’s catheter (also used as under-water drain)</td>
</tr>
<tr>
<td>Torch and blue filter</td>
<td>Instruments — needle holder, artery forceps, scalpel, blades, scissors, dental syringe, kidney bowl</td>
<td></td>
</tr>
<tr>
<td>Tongue depressor</td>
<td>Advanced cardiac life support equipment</td>
<td></td>
</tr>
<tr>
<td>Peak flow meter</td>
<td>Laerdal face mask</td>
<td></td>
</tr>
<tr>
<td>Reflex hammer</td>
<td>Ambubag — valve, mask, reservoir (varied masks)</td>
<td></td>
</tr>
<tr>
<td>Pocket knife</td>
<td>Laryngoscope blades and batteries</td>
<td></td>
</tr>
<tr>
<td>Trauma shears</td>
<td>Intubation tubes (nos 6.5/7.5/9) and inducer</td>
<td></td>
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<tr>
<td>Tape measure</td>
<td>Portable suction</td>
<td></td>
</tr>
<tr>
<td>Speculum</td>
<td>Drip set, IV catheters, dextrose vaculiter (5%) 15 drops/min set. Normal saline or Ringer’s lactate</td>
<td></td>
</tr>
<tr>
<td>Tourniquet</td>
<td>Military anti-shock trousers (nice to have)</td>
<td></td>
</tr>
<tr>
<td>Adjustable solid neck brace</td>
<td>Oxygen tank, tubing, masks (if ambulance is not available)</td>
<td></td>
</tr>
<tr>
<td>Glucometer</td>
<td>Fantastic optional extras</td>
<td></td>
</tr>
<tr>
<td>Haemoglobin meter</td>
<td>AED (automated external defibrillator)/pulse oximeter</td>
<td></td>
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<tr>
<td>ECG ruler</td>
<td>ECG/lung function</td>
<td></td>
</tr>
<tr>
<td>‘Sharps’ box</td>
<td>Scale (wrestling, boxing, judo)</td>
<td></td>
</tr>
<tr>
<td>Magnifying glass</td>
<td>Portable sonar equipment</td>
<td></td>
</tr>
<tr>
<td>Ear syringe</td>
<td>Neuro/orthopaedic equipment</td>
<td></td>
</tr>
<tr>
<td>Instruments — needle holder, artery forceps, scalpel, blades, scissors, dental syringe, kidney bowl</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Disposables

- Absorbent sponges
- Oral airway
- Examination gloves
- Pen and paper
- Resuscitation shield
- Lubricating jelly
- Fluorescein eye strips and eye anaesthetic
- Urine dipsticks (specific gravity is handy for hydration status)
- Urine bottles
- Lignocaine 1% with and without adrenaline
- Stitching material — nylon 4/0 and 5/0, non-absorbable/absorbable
- Alcohol swabs

### Advanced cardiac life support equipment

- Laerdal face mask
- Ambubag — valve, mask, reservoir (varied masks)
- Laryngoscope blades and batteries
- Intubation tubes (nos 6.5/7.5/9) and inducer
- Portable suction
- Drip set, IV catheters, dextrose vaculiter (5%) 15 drops/min set. Normal saline or Ringer’s lactate
- Military anti-shock trousers (nice to have)
- Oxygen tank, tubing, masks (if ambulance is not available)

### Fantastic optional extras

- AED (automated external defibrillator)/pulse oximeter
- ECG/lung function
- Scale (wrestling, boxing, judo)
- Portable sonar equipment

### Neuro/orthopaedic equipment

- Neck brace — solid and soft, various sizes. Spinal board
- Cast padding
- Crutches
- Elastic bandages
- Finger-sized aluminium foam splints
- Knee/ankle immobiliser
- Plaster/fibreglass splinting
- Sling shoulder/wrist brace
- Tape
- Thermal blankets
tempted to use a diuretic for swollen lower extremities after travelling. Pack them separately
• Anti-inflammatory/anti-gout treatment. Athletes often use high-protein drinks and gout can be found in a young population, in veterans and in officials.

Prescription forms
These are very valuable, and often get stolen to obtain extra medication for family and friends. Protect them well and control their authenticity.

Controlled drugs
Remember that you will be held responsible for the misuse of controlled drugs. In some countries, such as Singapore, even the carrying of illegal, addictive substances is punishable by the death penalty. Governments regulate medication supply, therefore possession, prescription, storage, record-keeping and disposal must be in line with local regulations. For example, a combination of paracetamol, caffeine, codeine phosphate and meprobamate is illegal in Australia and one should declare and clear it with customs.

Record-keeping
• Registers for schedule drugs (e.g. pethidine)
• Acquisition supply record
• Date on which transaction occurred
• Name and address of person/firm that supplied the drug(s)
• Quantity supplied
• Total stock on hand.

Insure your sports bag and its contents. It can be covered in travel insurance or alternatively as part of the travelling team’s equipment. Also consider temporary medical insurance for your own or visiting athletes. An event such as the Olympic Games will have event insurance that can include all participants and officials. At the opening ceremony of the 1996 Olympics in Atlanta an official died of a heart attack. The hosting country was liable. With proper cover your team will have easy access to special investigations.

AIDS exposure pack
AIDS is a reality in sport, with exposure very possible, especially when athletes have to qualify for the Olympic Games as citizens of an African country. Some contact sports, such as boxing, require a clearance certificate, but other contact sports carry risks. The social aspect of sport also exposes athletes as well as officials to possible infection. Carry the 3-day Retrovir/3TC Post-HIV Exposure pack and start treatment within 2 hours after exposure, if possible.

Vaccines
All athletes who travel regularly must have their immunisation schedule with them, and update their tetanus and hepatitis B vaccinations. Take care with adolescents. Not everyone will adhere to the instruction to immunise him/herself. Some countries require yellow fever and diphtheria immunisations. Pneumococcal immunisation can be done. Diphtheria and tetanus (2 types) vaccines must be carried; the latter should be stored in a refrigerator or cool space.

References available on request.

IN A NUTSHELL
Prepare your emergency bag according to the specific type of sport covered, the age of participants, probable emergencies and country in which the sports event will be held.
Choose the type of bag according to conditions of the field of play.
Consider what to pack — equipment, paperwork, communication devices and drugs.
Pack for easy emergency access and to avoid the accidental use of banned substances.
Know how to obtain supplies at the competition venue and make sure of your foreign registration.
Product liability across borders — prepare to clear customs with necessary documentation.
Controlled drugs — know the rules of the specific country where the event will take place.
Insure the sports bag and keep it secure.