



St John Ambulance Australia

**SKILLS MAINTENANCE AND
RE-EXAMINATION PROGRAMME
1990**

NAME

SIGNATURE

DIVISION

DATE

St John Ambulance Australia

**SKILLS MAINTENANCE AND
RE-EXAMINATION PROGRAMME
1990**

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COMPLETED
Signature Date

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REMARKS

Welcome to the 1990 Skills Maintenance Programme which will help you to update and consolidate your skills and knowledge of First Aid. Four years of the programme will cover the entire First Aid Syllabus necessary to maintain your efficiency in St John Ambulance Australia.

Developed by members of Victoria District, the programme will be constantly reviewed and updated. Your suggestions for improvement are very welcome and I'm sure you will join with me in expressing our congratulations and thanks to the Victorian District Committee members.

Dr B. E. J. Ancell
Chief Surgeon

VICTORIA DISTRICT TRAINING COMMITTEE MEMBERS

| | | |
|-------------------|---|------------------------------|
| Mrs B. Davis | — | District Nursing Officer |
| Mr W. Deakes | — | Corps Officer |
| Dr N. Fisher | — | Corps Surgeon |
| Mr J. l'Anson | — | Corps Ambulance Officer |
| Mr G. Keane | — | Divisional Ambulance Officer |
| Mrs D. McErlain | — | Divisional Nursing Officer |
| Mrs L. McMurtrie | — | Divisional Nursing Officer |
| Mr P. McMurtrie | — | District Officer |
| Dr J. Wassertheil | — | District Officer |

INTRODUCTION

The 1990 Skills Maintenance and Re-Examination Programme adopts and expands the innovative training concepts developed in the previous programme.

The expanded approach relates to the combined application of patient care in the home and first aid theory and practical skills to a series of practical incidents, which incorporate the use of the St John Casualty Report Form.

Distribution of the Programme including the training packages will be effected via:-

- Districts — District Surgeons in each State
- Regions — Corps Superintendents for Regional Staff
- Corps — Corps Superintendents for Corps Staff
- Divisions — Divisional Superintendents for Divisional Members

PROCEDURE

(A) ST JOHN MEMBERS

- 1 Each member will receive their own copy of Programme. The front cover of the Programme will be signed and dated on receipt.
- 2 Members will sign the Officer-in-Charge master issue sheet (SMP 2899).
- 3 The programme is divided into two (2) sections (section A and B). Each section consists of theory and practical skills modules.

All the practical skills modules pertaining to the section must be practised and, when mastery level is obtained, signed, before the practical incident pertaining to the complete section can be attempted.

NOTE:

'AFA' refers to *Australian First Aid SJAA 1989*.

'CSH' refers to *The Care of the Sick in the Home SJAA 1981*

- 4 When all the practical skills modules for the section have been completed (Mastery level reached), the person responsible for your training will issue you with a White Briefing Sheet and a Part-Completed White Casualty Report Form.

These sheets will contain the following:-

- History of the incident
 - Name of patient
 - Address of patient
 - Time
 - Complaint of patient
- 5 Using the history stated on the Briefing and Casualty Report Form, the practical incident will be staged and you will treat the patient/s accordingly.

- 6 On completion of the incident, you will record your management under the appropriate treatment heading listed on the Casualty Report Form.
- 7 An overall training session on the incident will be conducted by the person responsible for training, and you will be able to check and record treatment in line with the Casualty Report Form Answer Sheet. Access to this Answer Sheet is via Training Personnel. This sheet will not be issued to members.

At the end of each section, a page headed "Management Notes" is provided for recording purposes during workshop segment.

- 8 The section, when satisfactorily completed, as per the training programme and Casualty Report Form Answer Sheet, will be signed and dated by the responsible person.
- 9 You cannot attempt the section practical incident until all the practical skills modules pertaining to that section have been signed as satisfactory.

(B) OFFICERS/TRAINING PERSONNEL

- 1 Unless exempted under General Regulations, all Officer/Members of St. John shall complete the Skills Maintenance and Re-Examination Programme to the standard prescribed.
- 2 The term "Training Personnel" refers to all Officers and/or a St John member so designated to a training function. If professional training personnel are unavailable within divisions, then the Officer-In-Charge should communicate the name, qualifications, etc. of a nominee to fill the role to the District Surgeon for consideration. All such requests will receive written advice.
- 3 All officers and/or designated training personnel are responsible and accountable for the modules of the training programme they have signed as being satisfactorily completed.
- 4 Practical skills items pertaining to the module being undertaken must be signed as satisfactory before the relevant section practical incident can be attempted.
- 5 The section practical incident will not be undertaken and assessed on the same day/night on which the relevant practical skills modules have been taught.
- 6 If, on conclusion of the section practical incident Training Module, the member is found to be unsatisfactory, then further training will be given, and another date and time for the assessment will be arranged.
- 7 On satisfactory completion of the section practical incident, sign and date the programme in the space provided at the end of the relevant section.

This programme belongs to all Officers and members of St John and its success depends on all of us working as a team. Your help, assistance and valued comments are always appreciated.

PROGRAMME APPLICATION — SUMMARY TRAINING PERSONNEL

| ACTION | COMMENTS |
|---|---|
| 1. Select one section of the programme. | — Can select/start at any section. |
| 2. Practical skills pertaining to section modules are taught and assessed. | — Spread evenly over the training period. — Sign and date each practical skills module pertaining to the section when members reach a satisfactory standard as per the programme. |
| 3. Issue the White Briefing for Practical Incident Sheet and the White Practical Incident Casualty Report Form (without treatment). | — Practical Incident Casualty Report Forms are marked section A and B to match the particular section being undertaken. |
| | NOTE: |
| | — DO NOT issue section Practical Incident Casualty Report Form to members: * On same day/night that the module practical skills for that section have been assessed. * If the module practical skills for the section have not been satisfactorily completed. |
| 4. Stage the incident | — Members complete treatment details on the Practical Incident Casualty Report Form. |
| 5. On completion of the Incident, Training personnel will conduct a workshop segment on the Practical Incident. | — Use Practical Incident Casualty Report Form Answer sheet (pink) supplied (these are marked section A and B to match the particular section being undertaken). DO NOT issue this pink sheet. — During training workshop, ensure members consult their own Casualty Report Form and compare same with Casualty Report Form Answer sheet. — Space is provided within the programme (headed 'Treatment Notes') for members to use during workshop segment. If |

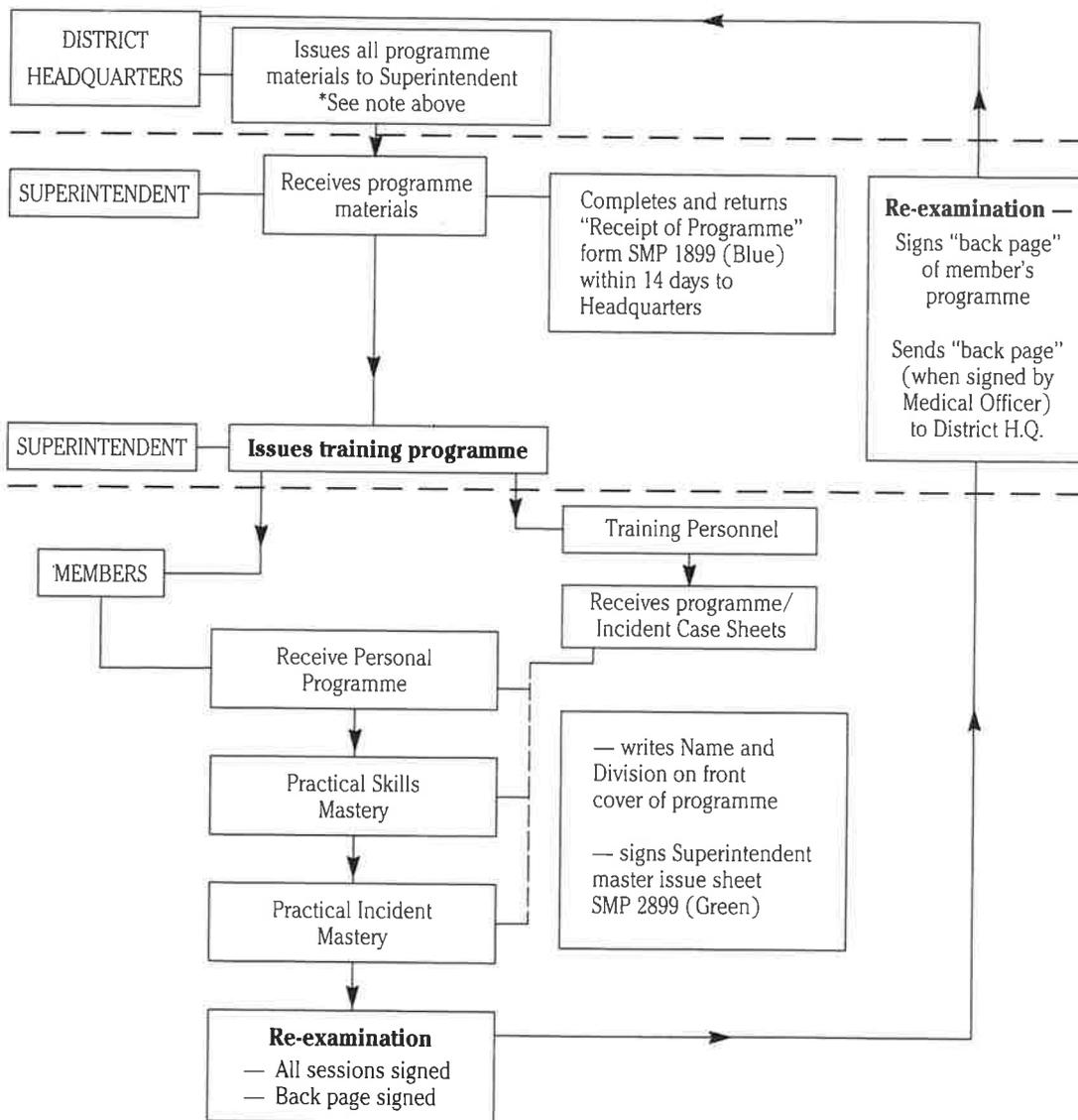
practical incident has been completed to the satisfactory performance standard, then sign and date the particular section of the member's programme.

- If unsatisfactory, repeat incident.
- DO NOT proceed to the next section until the member has satisfactorily completed the section in hand.

*** NOTE:**

Diagram illustrates procedure for all **Divisional Superintendents, Region Staff and Corps Superintendents**. Please follow the same procedure for your respective staff.

PROGRAMME ADMINISTRATION — FLOW DIAGRAM



ANNUAL RE-EXAMINATION

- a Re-examination based on this programme will be held to comply with General Regulations 9.9 (i) and should NOT be conducted on same night as Annual Inspection.
- b Your training programme which you will keep in your possession and complete as the year progresses, must have all modules (skills and practical incidents) marked as satisfactory before the night of your re-examination.
- c The confirmation of completion of programme modules (back page) must be signed by you and your Superintendent prior to the re-examination.
- d On the night of your re-examination, the Medical Officer will firstly examine your Training Programme. If completed and satisfactory, you will then be asked to complete a practical incident incorporating skills selected at random from your Training Programme. C.P.R. may also be included each year. This is a spot test to satisfy the Medical Officer that you have reached the required standard in practical skills application. Also, it is a check that those responsible for signing your programme have insisted on the appropriate standard being met.
- e The Medical Officer will then sign the confirmation of completion of re-examination section (back page) and this page will then be forwarded to District Headquarters by your Superintendent.
- f To meet the Operations Branch efficiency requirements for 1989 you must have your Training Programme completed before the night of the re-examination. Members on 'reserve', Cadet Officers and Senior Cadets must also meet these requirements.
- g This is the only method of re-examination acceptable for 1990. No other examination will be accepted, e.g. St John Ambulance First Aid Class examinations.

NOTE: This programme covers January 1990 — December 1990.

RESPONSIBILITY FOR TRAINING PROGRAMME

It is each individual member's responsibility to keep his/her own Programme up to date, have it signed as appropriate and present it at the annual re-examination.

A lost or misplaced Programme will result in your having to re-start a new Training Programme.

DISTRICT SURGEONS — AUSTRALIA
JANUARY 1990

SYLLABUS LISTS

1988

- Section 1 Introduction to Course
— Orientation to St. John Ambulance Operations Branch.
— Safety management.
- Section 2 Revision of Adult Cardio-Pulmonary Resuscitation
— Mouth to mouth ventilation of the lungs (E.A.R.)
— Cardio-Pulmonary resuscitation.
- Section 6 The Nervous System and the Unconscious Casualty
— Causes of altered consciousness.
— Assessment of the unconscious casualty.
— Management of the unconscious casualty.
- Section 7 Wounds
— Haemorrhage control
— Minor wound care.
— General wound treatment (continue in 1990)
- Section 11 Burns and Exposure to Extremes of Heat and Cold
— Causes of burns, classification and management principle.
— Heat exhaustion and heat stroke management.
— Exposure injury, frost bite and hypothermia.
- Section 16 Aspects of Preventive First Aid
— At scene of accident (as applied to programme).
— On roads and at public places of high risk.

1989

- Section 3 Resuscitation for Special Circumstances
— Infants and children.
— Laryngectomy stoma.
- Section 4 Applied Anatomy and Physiology
— (will be applied to each year's programme)
- Section 8 Casualty Transport Techniques
— Kinetic lifting principles.
— Lifting and stretcher loading techniques;
a) Chair lift d) Jordon frame
b) Hand-seat lift e) Furley stretcher
c) Blanket lift f) Fore and aft lift
- Section 10 Sporting Injuries
— Use of cold compresses and ice-packs (R.I.C.E.)
— Support bandaging techniques.
— "Fun-Runs" and their special problems.
- Section 15 Emergency Childbirth
— Normal pregnancy and management of the 3 stages of labour.

- Section 18 Psychologically Disturbed patients
— Nervous, psychotic and depressive states.
— Grief and loss.
— The violent person.

1990

- Section 2 Revision of Adult Cardio-Pulmonary Resuscitation
— Anatomy and physiology of the respiratory system
— Respiratory distress/arrest.
- Section 4 Applied Anatomy and Physiology (will be applied to each year's programme)
- Section 5 Systematic Examination of a Conscious Casualty
- Section 7 Wounds
— Operations Branch First Aid Kit — approved content.
— Haemorrhage control (conclusion)
- Section 9 Skeletal Injuries
— Types, symptoms and signs and general management of fractures.
— Spinal fractures — symptoms, signs and management.
— Rib fractures and flail chest— symptoms, signs and management.
- Section 10 Sporting Injuries
— Head, eye and dental injuries
— Ethical considerations and advice to the injured athlete.
— Inter-relationship with health and sporting professionals.
- Section 12 Medical Emergencies
— Lung conditions, including asthma and pneumothorax.
— Diabetic emergencies.
— Acute allergic conditions.
— Emotional overbreathing.
— Persons in distress.
- Section 13 Introduction to First Aid Units/Casualty Rooms
— The scope of casualty rooms/first aid units.
— Infection and communicable diseases, mechanism of spread, recognition, consequence and prevention principles.
— Aseptic dressing technique principles.
— Administration of Medicines.
— Observation of the casualty and documentation.
- Section 16 Aspects of Preventive First Aid (each year as applied to programme)
— At a sporting fixture.
— In the recreational environment.

1991

- Section 2 Revision of Adult Cardio-Pulmonary Resuscitation
— Anatomy and physiology of the circulatory system.
— Cardiac arrest.
- Section 4 Applied Anatomy and physiology (will be applied to each year's programme)

- Section 9 Skeletal Injuries
- Jaw, skull, upper limbs, lower limbs and pelvic fractures.
 - Improvised splints.
 - Summary of care for skeletal and soft tissue injuries, including strains, sprains and dislocations.
- Section 12 Medical Emergencies
- Heart conditions.
 - Epilepsy.
 - Cerebro-vascular accident.
 - Infant convulsions.
 - Poisons: inhaled, ingested, injected and absorbed.
 - Venomous bites.
- Section 14 Patient Care and Comfort
- Rest and sleep.
 - Bed making.
 - Lifting and moving a patient: bedside lifts.
 - Nutrition.
 - Pressure areas/comfort aids.
 - Bedpan and urinal.
 - Psychological support
- Section 16 Aspects of Preventive First Aid (each year as applied to programme)
- In the home environment.
 - In the workplace or school.
- Section 17 Drugs and alcohol



PART ONE

MODULE 1A

RESPIRATORY SYSTEM

PRESCRIBED REFERENCE:

Australian First Aid, Vol 2 (AFA)
Supplementary Training Material

OBJECTIVES:

At the conclusion of a period of instruction the St John member will be able to:-

1. Name the major anatomical structures of the respiratory tract between the Pharynx and the Alveoli.
2. Describe in general terms the Mechanism of Breathing.
3. List 4 causes of hypoxia and respiratory arrest.
4. Name the chambers of the heart.
5. Define the normal pulse rate for an adult — child.
6. State the three steps to create a clear airway for any collapsed casualty.
7. Outline the management of the collapsed casualty.
8. Following a demonstration on a Resuscitation Training Manikin, the member will be able to demonstrate:-
 - a) Airway clearance, head tilt and jaw support;
 - b) Effective Expired Air Resuscitation;
 - c) Location of a carotid artery pulse;
 - d) Location of the correct compression point on the sternum for E.C.C.;
 - e) Effective External Cardiac Compression;
 - f) Effective Cardio-pulmonary Resuscitation using both a single and dual operator technique including recovery checks at 2 minute intervals.

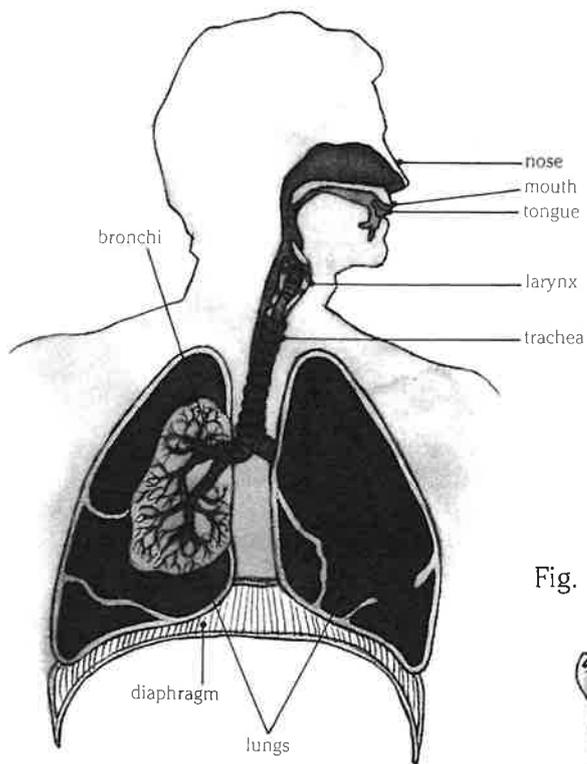


Fig. 1 The Respiratory System

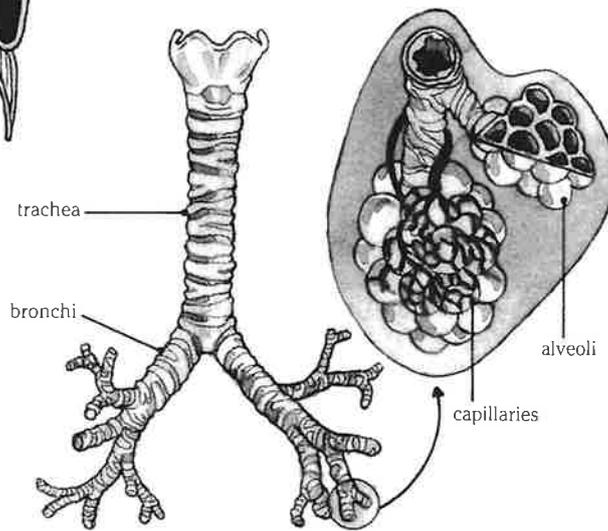
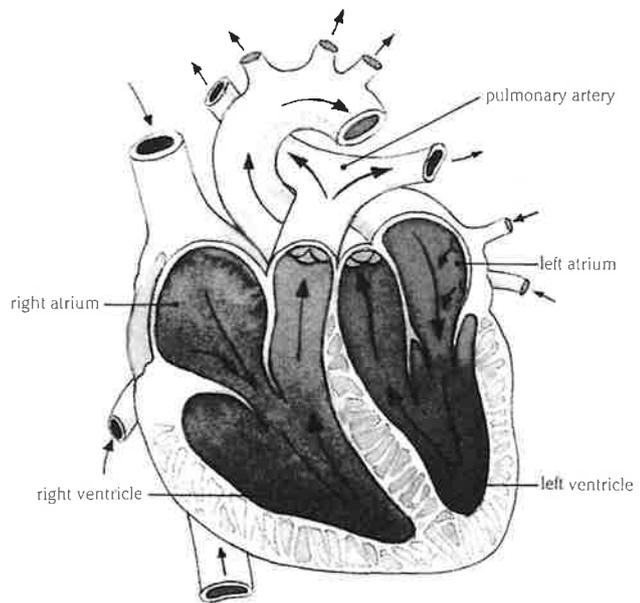


Fig. 2 The Heart



MODULE 1B

RESPIRATORY DISTRESS

PRESCRIBED REFERENCE:

Supplementary Training Material

OBJECTIVES:

On completion of the Training Period and after studying the material listed below the St John member will be able to apply this knowledge to the Section's Mock Practical Incident.

DEFINITION:

Respiratory distress is acute difficulty in breathing or shortness of breath.

History of this episode of respiratory distress, or of any previous episode, is vital.

SYMPTOMS AND SIGNS

The patient may complain of any of these symptoms and signs:

- choking feeling;
- “can't get enough breath in”;
- “can't take a deep breath”;
- chest feels tight;
- feeling wheezy;
- “short of breath”;
- chest pains;
- cough;
- dizziness;
- pins and needles in hands and feet and around mouth.

There may be *no* signs of the patient's respiratory distress, or you may observe any of the following:

- increased respiratory rate;
- noisy breathing;
- laboured breathing (where the casualty's whole chest seems to heave with every breath);
- increased pulse rate;
- cyanosis (blue lips);
- frothy or blood-stained sputum;
- anxiety, confusion or restlessness;
- evidence of chest injury;
- very shallow breathing e.g. fractured ribs.

TREATMENT:

Often basic First Aid or Patient Care Treatment is all that is required (or possible) for respiratory distress.

This includes:

- treatment of underlying injury (if possible);
- rest, reassurance and position of comfort;
- oxygen (if available);
- medical aid.

CAUSES:

Respiratory distress can be due to many conditions. Often it is caused by something quite apart from the chest or airways.

- e.g. — stress or excitement
— severe abdominal pains

1. MEDICAL CAUSES:

(a) Upper Airway

Any upper airway obstruction is a serious condition and requires urgent medical aid. The patient will usually complain of a choking feeling and usually has shallow, noisy respiration.

The usual causes:

- swollen throat from infection or allergy.
Ice packs to the throat may help. If the casualty is conscious, sucking an ice block may give some relief.
- foreign bodies.
Less common but diagnosis vital as foreign body may move, causing respiratory obstruction.

(b) Lungs and Chest

Chest conditions are often recurring, and the patient will often have a past history of respiratory distress. They may tell you the name of their disease, the tablets and treatment they require, and the name of the hospital they or their doctor usually attend.

In most cases oxygen is the only treatment available before the patient reaches medical aid. People suffering from chronic lung complaints should be given oxygen according to the casualties' needs.

For all these lung conditions the patient will probably have some of the following signs and symptoms:

- shortness of breath;
- chest pains, sharp, and worse on breathing;
- cough;
- wheeze (particularly in asthma).

The common conditions are:

- asthma;
- chronic bronchitis and emphysema;

- pneumonia;
- pneumothorax (collapsed lung);
- pulmonary oedema (fluid on the lungs due to heart failure).

Overbreathing is not a lung condition and can be difficult to diagnose. The patient is usually young, and usually in a stressful situation e.g. at a pop concert, or following a car accident.

The symptoms are;

- overbreathing;
- pins and needles in hands, feet and around mouth;
- and, in severe cases, cramps in the hands and feet.

The treatment is reassurance and to breathe in and out of a paper bag.

(c) Non-Respiratory Causes of Respiratory Distress

Respiratory distress can be a symptom of any serious medical condition, especially *severe pain or shock*.

One of the first signs of shock — whether due to internal haemorrhage, overwhelming infection, extensive burns, or severe pains — is an increased respiratory rate.

Other common causes of an increased respiratory rate are:

- heart attack;
- snake bite;
- poisonings;
- stress, anxiety or excitement;
- diabetes.

2. ACCIDENTS AND INJURIES

(a) Upper Airway

Anything that causes injury to the upper airway can be fatal, and requires very prompt emergency treatment.

Causes include:

- choking;
- strangulation and hanging;
- jaw and mouth injuries;
- drowning;
- insect or venomous bites to the upper airway or neck.

(b) Lungs and Chest

The ribcage is very springy and can withstand a great deal of force. However, once the ribcage has been fractured, lung injuries can be serious or even fatal.

The lungs may be:

- bruised;
- compressed (by a flail segment);
- punctured (by a fractured rib).

Rib or sternum fractures may make breathing so painful that respiration is very seriously affected, particularly in someone who smokes heavily or has a previous chest problem e.g. chronic bronchitis or asthma.

Other organs may be damaged in chest fractures, like the heart, liver or spleen. Shock may develop at any time.

The commonest injuries are;

- fractured ribs;
- fractured sternum (particularly if the patient hits the steering wheel);
- flail chest;
- penetrating chest injury (causing pneumothorax).

Remember that a patient may have rib fractures, a flail segment and a punctured lung.

MODULE 1C

CARDIO-PULMONARY RESUSCITATION

REVISION

PREScribed REFERENCES:

Australian First Aid, Vol 1 (AFA)

Australian Resuscitation Council — Policy Statements (PS)

OBJECTIVES:

On completion of the training period and after practising the practical skill listed below (to the satisfactory performance level as per the module check-list) the St John member will be able to apply the skill to the section's practical incident:-

PRACTICAL SKILL:

Perform effective cardiopulmonary resuscitation for an adult.

INCIDENT:

You are attending a private function when you see a middle aged person collapse. Examine the patient and treat accordingly. (Manikin must be used.)

CARDIOPULMONARY RESUSCITATION

SINGLE OPERATOR — ADULT

| CHECKLIST | TICK |
|--|------|
| DANGERS LOOK AROUND AND LISTEN FOR HAZARDS If the patient is in a hazardous location he/she should be moved or the hazard removed before continuing. (NO DANGERS) YELL FOR HELP | |

| CHECKLIST | TICK |
|---|------|
| <p>RESPONSE</p> <p>Assess response to:</p> <p>Verbal command e.g. Can you hear me? Open your eyes? What is your name? AFA p.30</p> <p>Kneel beside patient's shoulders.</p> <p>Shake — by grasping the patient's shoulders.</p> <p>(NO RESPONSE)</p> <p>Quickly turn the patient away from you onto the side AFA p.31</p> <p>Place the farther arm at right angles to the body.</p> <p>Place the nearer arm across the chest.</p> <p>Bend the nearer knee to bring the thigh at right angles to the hip.</p> <p>Place your hand under patient's neck and support head.</p> <p>Roll the patient onto his farther side.</p> <p>Turn the face slightly downwards to ensure drainage of fluids.</p> <p>AIRWAY</p> <p>Check for clear airway. Open the mouth.</p> <p>Look inside the mouth for foreign matter.</p> <p>Feel inside the mouth.</p> <p>Scooping with fingers, being careful not to push matter further in.</p> <p>Remove dentures only if loose.</p> <p>(NOTHING APPARENT)</p> <p>Open the airway (PS 4.3.2)</p> <p>Backward Head Tilt (March 1987)</p> <p>Place one hand on the forehead or top of the head.</p> <p>Other hand to support the jaw at the point of the chin.</p> <p>Tilt the head backward (NOT the neck)</p> <p>Ensure face turned slightly downwards to enable fluids to drain from the mouth.</p> | |

| CHECKLIST | TICK |
|---|------|
| <p>BREATHING</p> <p>Check if the patient is breathing by observing for signs of respiration.</p> <p>Look for movement of the lower chest and upper abdomen.</p> <p>(NO MOVEMENT)</p> <p>Listen and feel for the escape of air from the nose and mouth with your hand or cheek (PS 5.2 March 1987)</p> <p>(NO EXPIRATION)</p> <p>Feel, if necessary, for movement of lower chest and upper abdomen, however, movement here does not mean the patient has a clear airway.</p> <p>(IF CHECKED, NO MOVEMENT)</p> <p>It may be difficult to hear movement of air if there is background noise so it is important to follow the sequence — Look, Listen, and Feel.</p> <p>(NO BREATHING)</p> <p>Quickly turn the patient onto the back and commence expired air resuscitation (E.A.R.): Kneel beside the patient's head, and open the airway:</p> <p>Backward Head Tilt — place the palm of one hand on the Forehead (PS 4.3.2 March 1987).</p> <p>Support the Jaw using pistol-grip between the knuckle of the middle finger and the thumb (AFA p.35).</p> <p>Firmly but gently tilt the head backwards (not the neck).</p> <p>Lift the jaw upwards and forwards at the same time.</p> <p>Avoid excessive force.</p> <p>When neck injury is suspected USE CARE.</p> <p>The Airway always takes priority over any injury including a spinal injury.</p> <p>Seal the nose by pinching the nose with the thumb and index finger of the hand supporting the forehead or sealing with your cheek against patient's nostrils (AFA p.35).</p> <p>Take a deep breath.</p> <p>Seal your mouth over the patient's.</p> <p>Slightly open mouth.</p> <p>Breathe out quickly.</p> | |

| CHECKLIST | TICK |
|--|------|
| <p>Give Five (5) Quick Effective ventilations (AFA p.36). (Full breaths) with expired air Within ten (10) seconds</p> <p>Chest should be seen to rise indicating air has entered the lungs.</p> <p>Remove mouth.</p> <p>Turn head to the side.</p> <p>Observe chest fall without waiting for it to fall completely, and at the same time listen and feel for air being exhaled.</p> <p>CIRCULATION</p> <p>Check for presence of a pulse. While maintaining maximum head tilt with the hand on the forehead, the other hand supporting the lower jaw is moved to feel for the carotid pulse for five seconds (AFA p.37) (PS 6.2.1).</p> <p>Use the flat pulps rather than the fingertips as the fingertips are less sensitive. (The thumb is not used as it is even less sensitive.) (PS 6.2.2)</p> <p>Use two or three fingers along the line of the carotid artery between the adam's apple and the large muscle of the neck ensuring not to press on the opposite carotid artery at the same time.</p> <p>(PULSE ABSENT) (AFA pp. 39-41)</p> <p>Timing must reach this stage</p> <ul style="list-style-type: none"> — in correct sequence — DRABC — within 30 seconds of start <p>RECOGNITION OF CARDIAC ARREST PS 6.2 March 1988)</p> <p>A collapsed victim has had a cardiac arrest if he/she is:</p> <ul style="list-style-type: none"> Unconscious Not breathing, and has No carotid pulse <p>Commence cardiopulmonary resuscitation (C.P.R.). Kneel beside patient's chest (AFA pp. 39-41)</p> <p>External cardiac compression (E.C.C.).</p> <p>Locate compression site.</p> <p>Identify midline of sternum.</p> <p>Locate upper border by feeling groove between collar bones.</p> <p>Locate lower border by feeling the lower ribs at the rib junction.</p> | |

| CHECKLIST | TICK |
|---|------|
| <p>Identify the lower half of the sternum.</p> <p>Use the caliper method to locate and mark the centre of the sternum.</p> <p>Place the first finger of each hand at the upper and lower borders of the sternum.</p> <p>Bring both hands down so that the thumbs rest on the centre of the sternum. The position for the hands is between the thumb and finger of the lower hand.</p> <p>Place the heel of one hand centrally over the lower half of the sternum against the central marker thumb.</p> <p>Keep palm and fingers off the chest wall.</p> <p>Cover first hand with other hand. Either grasp the wrist of the lower hand with the thumb of upper hand or interlock the fingers of both hands.</p> <p>Press downward through the heel of the low hand.</p> <p>Keep compressing arm straight and vertical so your bodyweight is the compressing force.</p> <p>Lean forward so shoulders are vertically over the sternum.</p> <p>Press firmly 4 — 5cm (1.5" — 2").</p> <p>Lean backwards.</p> <p>Press rhythmically with equal time for compression and relaxation. Do not use rocking movements, thumps or quick jabs.</p> <p>The action is compression rather than massage hence the unacceptability of the term "external cardiac massage".</p> <p>Pivot from the hips and not the knees.</p> <p>Release the pressure to allow proper expansion of the chest but do not remove hands from the chest.</p> <p>Generate a pulse.</p> <p>Give 15 compressions immediately.</p> <p>Compression rate One press every $\frac{3}{4}$ second, i.e. at least 80 compressions BUT not more than 90 compressions/min or 15 compressions in 10-12 seconds.</p> <p>Timing: To this stage in 60 seconds.</p> <p>Ratio: Interpose two (2) ventilations after every 15 compressions. After every 2 ventilations the hand that releases the jaw feels for the rib junction and keeps the place marked while the other hand which releases the head is on the lower half of the sternum against the fingers.</p> | |

| CHECKLIST | TICK |
|---|------|
| <p>Cycles per minute: 4 cycles of 15:2, i.e. 60:8 per min</p> <p>Achieve: At the end of each minute at least 60 compressions and 8 ventilations must be achieved.</p> <p>Instruct the Member to continue for at least three minutes during which the effectiveness skills sheet "A" at the end of the module can be completed.</p> <p>Time Limits: 15 seconds maximum each C.P.R. cycle 10-12 seconds for each 15 compressions. 3-5 seconds for position changes and 2 ventilations.</p> <p>Effective Standards: 8-10 ventilations/minute. 60 compressions/minute Rate of compression 75-90 minutes.</p> <p>Monitor effectiveness: Regular revival checks (A.B.C.) After one minute (i.e. 4 cycles). After every two minutes thereafter (i.e. 8 cycles)</p> <p>Continue until medical aid arrives (pulse and respiration do not return with this incident).</p> <p>*** — must be satisfactory to gain an overall PASS</p> <p>All criteria, including the rates, should be evaluated by the observer. Dials, lights, printouts, etc. should be used to supplement the observations of the observer, not replace them. (At no time should evaluation be solely based on lights, dials, printouts, etc.)</p> | |

Practical Skill mastered

Signed:

Date:.....

MODULE 2

APPROACH TO AND EXAMINATION OF A CONSCIOUS PATIENT

PRESCRIBED REFERENCES:

Supplementary Training Material.

INTRODUCTION:

This topic is intended to instruct the St John member to competently approach a casualty and to routinely examine a conscious patient.

OBJECTIVES:

Having studied the relevant pages of the prescribed text and attended training sessions, the St John member will be able to:

- 1.1 Approach a casualty in a confident manner.
- 1.2 Relate to the casualty as a person.
- 1.3 Manage the casualty's injuries, gently and carefully.
- 1.4 Examine a conscious casualty using the checklist.

SUPPLEMENTARY TRAINING MATERIAL:

When approaching a person who has been injured, it is essential to introduce yourself in such a way that the injured person knows who you are and so can have confidence in your ability. So, when giving instructions to the casualty, speak firmly, quietly and with authority.

Always relate to the casualty as a person — not as a fractured femur, or a heart attack, *but as a person with a fractured femur, or heart attack*. Be aware of the emotional problems associated with injury or illness. For example, a small child with a fractured leg is more worried about what Mummy or Daddy will say, because the injury may have been caused by the child doing something he/she has been told not to do. A teenager may be more concerned about when he/she can play sport again or how the injury will affect his/her appearance. Young adults may worry about when or how quickly they can get back to work.

Elderly people are usually worried about becoming confined to bed for a long period with complications of chest infections and the loss of their mobility and thus becoming dependent on others. It is just as important to look after the emotional needs of the casualty as it is the injury.

The relatives of an injured person can be of assistance if properly informed and advised by the first aider. They can provide information about the injured person, or verify information already gained.

A child may be more responsive if mother or father is present.

EXAMINE A CONSCIOUS PATIENT:

SATISFACTORY

TICK

On approaching casualty,

OBSERVE the scene for: hazards — to yourself
— to others
— to the casualty

clues for possible injuries

Speak to the casualty: — “Lie/sit still — don’t move.”
— “I’m a first aider and I can help you.”
— “My name is
What is your name?”

Check for Haemorrhage — treat any copious bleeding immediately.

Ask where pain is — “Where do you hurt?”
— Investigate these painful areas.

Ask casualty to explain in detail what he/she remembers about incident. “Tell me exactly what happened.”

This may lead you to further possible injuries. If casualty has only a vague recollection — ? L.O.C.

Check the casualty for injuries consistent with his story.

Ask a bystander who saw the accident to tell you exactly what happened. Compare the casualty’s story with the bystander’s story.

Ask casualty for previous medical history. (This may provide further clues to their condition, or may influence later treatment)

Check remaining areas of body for function, unusual appearance or feel, which may indicate further injury.

Treat injuries according to order of severity. Reassure the casualty.

Recheck for painful areas.

Record your observations of the casualty and the situation.

Arrange for casualty disposal (medical aid, home etc. as appropriate).

Practical Skill mastered

Signed:

Date:

MODULE 3

THE SHOCK STATE

PRESCRIBED REFERENCE:

Supplementary Training Material.

OBJECTIVES:

After completing this section the student will be able to identify causes of the Shock State, recognise the symptoms and signs and know the management of this patient.

SUPPLEMENTARY TRAINING MATERIAL:

Any discussion on the injured patient must include information on the "shock state". The word shock is imprecise and a simpler definition is not possible because it is not a single entity with a specific cause or treatment. The term "shock state" is an attempt to understand the process, which is one of survival, a struggle by the body in an adverse situation, trying to preserve its most vital functions.

The overall body response is a complex sequence of reactions designed to preserve and restore perfusion of tissues and the volume of blood. Significant injury results in loss of blood and circulating tissue fluids. The loss is the result of not only bleeding but also a shift of fluids into the area of injury, noted as a region of fluid collection or tissue swelling.

Pain is also a prominent feature of injury and is often accompanied by anxiety, fear and anger. Bleeding and associated tissue fluid loss impair the general functions of the cardio-vascular system. The loss of circulating volume results in the nervous system and endocrine glands activating a variety of functions, although emotional factors normally cause this action before circulatory volume change is sufficient to do so.

These nervous and endocrine responses are aimed at restoring a stable cardio-vascular function. This is achieved through increases in:

1. Myocardial contraction.
2. Heart rate.
3. Peripheral vasoconstriction.

The changes operate to maintain perfusion pressure and blood flow to critical areas, including brain and myocardium. The maintenance of critical perfusion is at the expense of other areas, especially the organs of the abdominal cavity. This low perfusion leads to progressive tissue hypoxia and acidosis, and if prolonged may prove fatal.

HYPOVOLAEMIA:

The degree of response to blood volume loss will be related to the amount of blood loss and the rate at which it is lost.

The elderly and the very young do not tolerate loss of blood well.

The clinical picture of a person who has sustained significant reduction in blood volume by bleeding or tissue fluid shift may be described as HYPOVOLAEMIC SHOCK.

Hypovolaemic shock cannot be considered in complete isolation from other disturbed states. Frequently, no single cause operates — e.g. a patient with a gunshot wound to the abdomen is suffering simultaneously from —

Hypovolaemia — bleeding vessels and tissue damage.

Neurogenic stimuli — pain, fear, anxiety.

Toxins — open bowel with content spill.

In a young, previously healthy victim of injury there are few recognisable clinical changes until more than 25% of the blood volume has been lost. As loss continues, changes in symptoms, vital signs and appearance of the patient occur.

| | |
|----------------|---|
| INITIALLY: | Rapid pulse rate Hypotension Skin pallor |
| | |
| PROGRESSIVELY: | Pulse weakens Sweating occurs Thirst |
| | |
| | Agitation Respiratory change Hypoxia Confusion Increased hyperventilation |
| | |
| | Apathy |
| | |
| | Coma |
| | |
| | Death |

SHOCK:

- Pale appearance
- Cold, clammy skin
- Giddiness or fainting
- Nausea, vomiting
- Rapid, shallow breathing
- Pulse, rapid and weak
- Thirst, if loss of body fluids.

SUMMARY OF MANAGEMENT (See AFA, Vol 1, pp. 57-8):

- Initial Care
 - A.B.C.
 - Continual observations
- Control Bleeding
 - Direct pressure
 - Wound care.
- Emotional Support
- Ambulance
- Patient Posturing
 - Elevation of lower limbs.
- Oxygen Therapy
 - Nasal cannula or Hudson face mask
- Fracture Splinting
- Protect from heat loss

MODULE 4

FIRST AID KIT LIST — 1989

The following list is prepared for the standard member's kit for first aid duties and competition purposes. Items on the list marked 'Appendix B' may be included only after approval by the District Surgeon.

NB The Operations Branch Standard First Aid Kit available from St John National Supplies, through District Headquarters, has been approved for Branch use.

SECTION "A"

| NO. | SIZE | ITEM | USES |
|-------------------------|---------------------------------------|--|---|
| CLEANING ITEMS: | | | |
| 5-10 | — | Individually wrapped skin cleaning swabs (non-alcoholic) | Cleaning small areas around a wound. Preparation of skin for adhesive tape to be applied. |
| 5 | packs (max. 10 swabs) | Sterile gauze swabs. | For wound cleaning. |
| 1 | 125g. | Antiseptic soap in a self-sealing plastic bag. | Cleaning of member's hands prior to giving eye care or wound cleaning (other than haemorrhage). |
| 6 | small | Disposable towels, e.g. a "pop-up" pack or other paper towelling sheets. | Drying of hands and skin. To assist with control of major haemorrhage. |
| WOUND DRESSINGS: | | | |
| 2 | X BPC 14 medium (approx 15 x 12cm) | Prepared wound dressings | Sterile combined dressings with attached roller bandage. |
| 1 | X BPC 15 large (approx 18 x 14cm) | Prepared wound dressings | For major wounds to control bleeding. |
| 2 | medium (approx 9 x 20cm) | Prepared dressing pads | Combined dressings (made of gauze and cotton wool), for weeping or oozing wounds. |
| 3 | large (approx 20 x 20cm) | Prepared dressing pads | |
| 2 | approx 7.5 x 10cm | Sterile non-adherent dressing | For burns or abrasions where a non-adherent dressing is needed. |
| 1 | approx 4cm x 1 metre | Adhesive dressing strip | Cut to size for minor wounds. N.B. Keep in sealed pack to protect cut edge of dressing. |
| 1 | packet (approx 25) | Assorted adhesive strip dressings | For use on minor wounds. |

| | | | |
|---|-----------|-------------|--|
| 1 | 100g pack | Cotton wool | Unsterile. Not to be used in contact with an open wound. To be used only as padding. |
|---|-----------|-------------|--|

BANDAGES:

| | | | |
|---|--------------|----------------------|--|
| 6 | 1 metre wide | Calico triangular | Used as a sling or as broad or narrow bandage to support an injured part or retain a dressing or pad; or folded into a firm pad. |
| 1 | 2.5cm | Crepe roller bandage | To secure dressings in place on finger, thumb, or limbs. |
| 4 | 7.5cm | Crepe roller bandage | For pressure immobilisation after envenomation. |
| 1 | 15cm | Crepe roller bandage | |

ADHESIVE TAPES:

| | | | |
|---|-------------------|----------------------|---|
| 1 | approx 7.5cm wide | Zinc oxide tape | Strong tape for firm support. |
| 1 | approx 2.5cm wide | Hypo-allergenic tape | To retain a light dressing. Use on sensitive skin or for a child. |

EYE CARE ITEMS:

| | | | |
|---|-------------|---|--|
| 2 | approx 30ml | Single-use sachets sterile saline solution for irrigation (N.B. note expiry date) | To wash out small foreign bodies e.g. dust or smoke. Do not use after expiry date or re-use after opening. May be used for wound cleaning. |
| 4 | | Sterile eye pads | To cover an inflamed eye. N.B. for serious eye injuries both eyes should be covered. |

MISCELLANEOUS ITEMS:

| | | | |
|----|--------------------|-----------------------|--|
| 6 | approx 30cm x 40cm | Plastic bags | Various uses: to make an ice pack, carry an amputated part, seal an open chest wound, carry waste, make a dry work space or for a patient's valuables or personal items etc. |
| 10 | medium and large | Assorted safety pins | To secure triangular bandages etc. |
| 1 | approx 20cm | Plastic kidney dish | For clean items when giving wound or eye care. |
| 1 | approx 13cm | Dressing scissors | For cutting dressings or clothing. |
| 1 | approx 12cm | Tweezers (Sharp ends) | To remove splinters etc. |
| 1 | penlight | Pen torch & batteries | For pupil observations. |

| | | | |
|----|----------------|---|---|
| 1 | | Laerdal pocket face mask | For use with potentially infectious casualties, e.g. Hepatitis B, AIDS etc. |
| 4 | pairs | Disposable plastic gloves | For use with potentially infectious casualties, e.g. Hepatitis B, Aids etc. |
| 2 | — | Ball-point pen or pencils (with sharpener) | To complete casualty records etc. |
| 1 | — | Spiral-bound notebook | To note observations or send messages etc. |
| 1 | pad of 25 | Approved Casualty Report Forms | To maintain necessary records. Must be issued to every casualty. |
| 1 | approx 375 mls | Water bottle or drinking flask with water and disposable cups | To give as a drink or for washing. |
| 24 | 500mgm | Paracetamol tablets, foil wrapped | Not to be given to children under 7 yrs of age. |

The above list shows the maximum number of each item to be carried by Operations Branch personnel for Competition purposes. For public duties there is no restriction on the number of approved items which may be carried.

SECTION "B"

Items from the following list may be carried only with the approval of the District Surgeon.

| NO. | SIZE | ITEM | USES |
|--------------------------------------|------|---|---|
| SUBSTANCES FOR TROPICAL APPLICATION: | | | |
| 1 | 20ml | Sachet of Savlon (diluted to 1% aqueous solution with water immediately before use) | For wound cleaning when diluted according to instructions. N.B. Always use a marked container to ensure accurate dilution. Discard diluted solution at end of day. |
| | | Cream and/or aluminium sulphate solution for insect stings | To soothe irritation after an insect sting. Use sparingly to reduce risk of sensitisation. Do not use around or near the eyes. |
| 1 | 15ml | Tinct. Benz. Co. (Friar's Balsam) | In a leak-proof bottle. To protect/seal broken skin or applied prior to the application of adhesive tape. |

| | | | |
|---|---------------------|--|--|
| 1 | 100ml tube or spray | Sunburn prevention e.g. PABA in alcohol | Apply before and during sun exposure. Keep away from eyes and mouth. |
|---|---------------------|--|--|

SUBSTANCES TO BE TAKEN INTERNALLY:

| | | | |
|----|------------|-----------------|--|
| 1 | 20 tablets | Glucose tablets | Instant energy source for a conscious hypoglycaemic patient. May be used as a placebo. |
| 10 | wrapped | Antacid tablets | To relieve indigestion/ heartburn. |

MISCELLANEOUS:

| | | | |
|-----|--------------------|--|---|
| 1 | celsius | Thermometer | Must be disinfected after use. |
| 1 | metre | Tubular gauze finger dressing set and applicator | For use on fingers or toes to retain a dressing in place. |
| 1 | pre-rolled lengths | Toilet paper | Pre-rolled in several lengths and stored in a plastic bag. |
| — | various | Old sheeting/towelling | Used as padding for splints or to support fractures, etc. |
| 1 | various | Plastic sheeting or a foil rescue blanket | As a groundsheet or insulating cover for the casualty. N.B. Take care to avoid use of matches or a lighter near a rescue blanket due to the risk of fire or burns. |
| 1 | adult-size | Plastic raincoat | Emergency protection for self or casualty in case of rain. |
| 1 | — | Cervical collar | To support and stabilise a neck. |
| 1-2 | | Inflatable splints | To support and stabilise fractures of a lower leg or forearm. |

MODULE 5

INJURIES TO BONES, JOINTS AND MUSCLES

PRESCRIBED REFERENCE:

Australian First Aid — St John Ambulance Australia
2nd Edition 1989 (AFA)

Care of the Sick in the Home — St John Ambulance Australia
5th Edition 1981 (N)

Supplementary Training Material.

INTRODUCTION:

This section of the Training Programme is intended to revise basic principles in the management of these injuries, as well as to provide a stimulus for St John members to increase their knowledge of such injuries in the interest of their casualties.

OBJECTIVES:

| | REFERENCE | SATISFACTORY | |
|--|-------------------|--------------|------|
| | | TICK | DATE |
| Having studied the relevant pages of the prescribed texts and attended training sessions on the practical aspects of this section, the St John member will be able to: | | | |
| 6.1 State the composition and function of bone. | N | | |
| 6.2 List the classifications of bones. | N | | |
| 6.3 State the composition and function of the skeleton. | AFA Vol 2 p10 | | |
| 6.4 Locate and name the following bones: | | | |
| — parts of the skull: | AFA Vol 2 pp10-11 | | |
| — face — mandible | | | |
| — vertebral column: | AFA Vol 2 pp11-12 | | |
| — cervical vertebrae | AFA Vol 2 pp11-12 | | |
| — sternum | AFA Vol 2 pp11,13 | | |
| — ribs | AFA Vol 2 pp11,13 | | |
| — bones of upper limb: | AFA Vol 2 p13 | | |
| — clavicle | | | |
| — scapula | | | |
| — humerus | | | |
| — radius | | | |
| — ulna | | | |

| | REFERENCE | SATISFACTORY | |
|--|--|--------------|------|
| | | TICK | DATE |
| <ul style="list-style-type: none"> — bones of the wrist — bones of the hand and fingers — bones of lower limb: — pelvis — patella — tibia — fibula — femur — bones of ankle — bones of foot and toes | <p>AFA Vol 2 p13 AFA Vol 2 p13 AFA Vol 2 p14</p> <p>AFA Vol 2 p14 AFA Vol 2 p14</p> | | |
| 6.5 Define and understand the function of a joint. | | | |
| 6.6 Define ligament and understand the function of a ligament. | N | | |
| 6.7 Explain the function of voluntary muscles. | N | | |
| 6.8 Explain why muscles bleed when injured. | N | | |
| 6.9 Define tendon. | N | | |
| 6.10 Define cartilage. | N | | |
| 6.11 Define a fracture. | AFA Vol 1 p91 | | |
| 6.12 List and define the causes of a fracture. | AFA Vol 1 pp91-92 | | |
| 6.13 List the symptoms and signs of a fracture. | AFA Vol 1 p94 | | |
| 6.14 List the three main types of fractures. | AFA Vol 1 p93 | | |
| 6.15 State the complications of a fracture. | N | | |
| 6.16 State the three main objects of management of fractures. | N | | |
| 6.17 Immobilize the following fractures: <ul style="list-style-type: none"> — humerus — radius and ulna — clavicle — pelvis — neck of femur — shaft of femur — tibia and fibula | AFA Vol 1 pp97-111 | | |
| 6.18 Define dislocation. | AFA Vol 1 p90 | | |

| | REFERENCE | SATISFACTORY | |
|--|-------------------|--------------|------|
| | | TICK | DATE |
| 6.19 List the symptoms and signs of a dislocation. | AFA Vol 1 p90 | | |
| 6.20 Demonstrate the treatment of a dislocation. | AFA Vol 1 pp90-91 | | |
| 6.21 Recognise the symptoms and signs and demonstrate the treatment of strains and sprains. | AFA Vol 1 pp89-90 | | |
| 6.22 Demonstrate the use of a cold compress in the treatment of bone, joint and muscle injuries. | AFA Vol 1 p88 | | |

SUPPLEMENTARY TRAINING MATERIAL

(See Figures 3-6)

BONES:

Bone is one of the hardest tissues in the body, and together, all the bones form what is known as the skeleton, or bony framework of the body.

Bones are classified as:

- LONG BONES — femur, humerus, radius, ulna and tibia.
- IRREGULAR BONES — pelvis and skull.
- SHORT BONES — bones of feet, fingers and hands.
- FLAT BONES — ribs.

Each of the long bones of the body has two main layers — an outer layer of thick rigid compact bone and, in the centre, a layer called the bone marrow which has a soft spongy structure where blood cells are formed.

Bones are structured and shaped according to the function they are expected to perform. Some bones give support to the weight of the body, e.g. the bones of the lower limbs. Some of the bones form a protection for some of the more delicate organs, e.g. the ribs protect the heart and lungs and the skull protects the brain. The bones provide attachment for the voluntary muscles. Some bones provide levers which are essential for the movement of the body.

BONES WITH SPECIAL FUNCTIONS:

Bones of the skull protect the brain. The skull is particularly vulnerable at its base where the spinal cord passes down from the brain to the vertebral column.

The ribs protect the heart and lungs and also are a vital part of the mechanism of respiration. The vertebral column protects the spinal cord while allowing flexibility of the body.

LIGAMENTS:

Ligaments are bands of fibrous and elastic tissue that attach to the end of each bone forming a joint. Hence, the ligament itself goes from bone to bone and holds the joint steady while still allowing some mobility.

MUSCLES:

Because the function of a muscle is to move bones at a joint, the two ends of muscle must, therefore, be attached to two different bones on either side of joint.

Muscles usually lie very close to bones, hence may be damaged in fractures. Because muscles, particularly those of the limbs are very active, they require a profuse blood supply to bring them the required amount of oxygen and glucose. Thus, if muscles are torn as in over stretching or damaged by the ends of bones as in a fracture, they may bleed quite profusely.

TENDONS:

Tendons are the ends of muscles which usually become thin and 'cord' like (look at the tendons near your ankle and wrist), and insert into a bone thereby linking the muscle to the bone. Tendons are formed near joints and connect muscles to bone.

CARTILAGE:

Cartilage is found lining the ends of bones in freely-movable joints, thereby allowing smooth surfaces of the bone ends to move against each other. Special cartilages are found within the joint itself which help to make the joints fit more snugly, e.g. the knee joint.

FRACTURES:

No fracture is simply a break in the continuity of a bone, because there is inevitable damage to the soft tissues even if only to vessels and nerves within the bone. (Read the section headed, EFFECTS — AFA Vol 1 p93).

In all fractures there is some degree of bleeding. This bleeding takes place from two sites:

- From blood vessels inside the broken bones;
- From blood vessels in the tissue damaged around the fracture site.

The amount of bleeding from the smaller bones of the body is of no great significance and the first aider can minimize this bleeding by immobilization, support elevation, rest and re-assurance of the casualty and by the application of ice or cold.

The larger bones of the body will continue to bleed despite these first aid measures. The amount of blood loss, together with the pain and emotional reaction, may lead to circulatory collapse (shock) in the patient. Patients who have fractures of large bones or who have multiple fractures, must have quick and careful initial immobilization and then be transported carefully and safely to hospital. While waiting for ambulance transport, the St John member must ensure there is continued observation and recording of the casualty's vital signs.

COMPLICATIONS OF FRACTURES:

Bones that protect internal organs may, when they are fractured, damage those underlying organs.

An altered conscious state can be sign of a fractured skull. Brain damage can occur with skull fractures. The possibility of brain damage can be assessed from:

- The casualty's level of consciousness;
- Pupil reaction — equal, unequal, reacting, non-reacting, size;
- History of injury and nature of skull deformity e.g. depressed fracture.

Rib fractures affect respiration and may involve ruptured lungs or damaged abdominal organs.

Spinal fractures may damage the spinal cord, causing paraplegia (loss of function of lower limbs) or quadriplegia (loss of function of all limbs).

St John members must be aware of the complications of these fractures and ensure that the casualty suffers no further damage.

USE OF COLD COMPRESS:

A cold compress can be used to arrest or slow down bleeding below the surface of the skin. Most swelling after injury is due to bleeding into the tissues. Cold applied to the outside of the body can slow or stop this bleeding process. Care must be taken to ensure that cold is not applied for too long and so further damage the tissues.

Methylated spirits can be added to water to produce a cold pack but an easier way is to place ice chips in a towel. The compress should be changed when the temperature of the compress rises. Cold should not be applied for more than 20 minutes at a time.

Warning signs of tissue damage:

1. Sensation of numbness;
2. Blanching of skin;
3. Reddening or blistering of skin.

CONCLUSION:

It can be concluded from these notes that St John members must be aware of changes in body function after injury and be prepared to assume that damage and malfunction is occurring that they cannot see with the naked eye. A fracture must be treated in conjunction with the total body function or malfunction present at the time of the injury or after injury.

Fig. 3 Bone and Joint

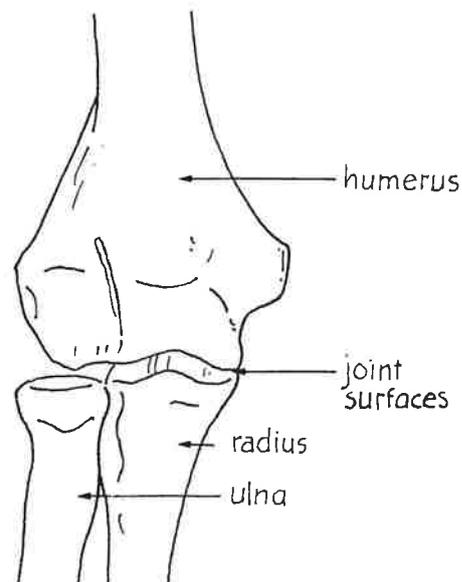


Fig 4.

Bone , Cartilage and Ligaments

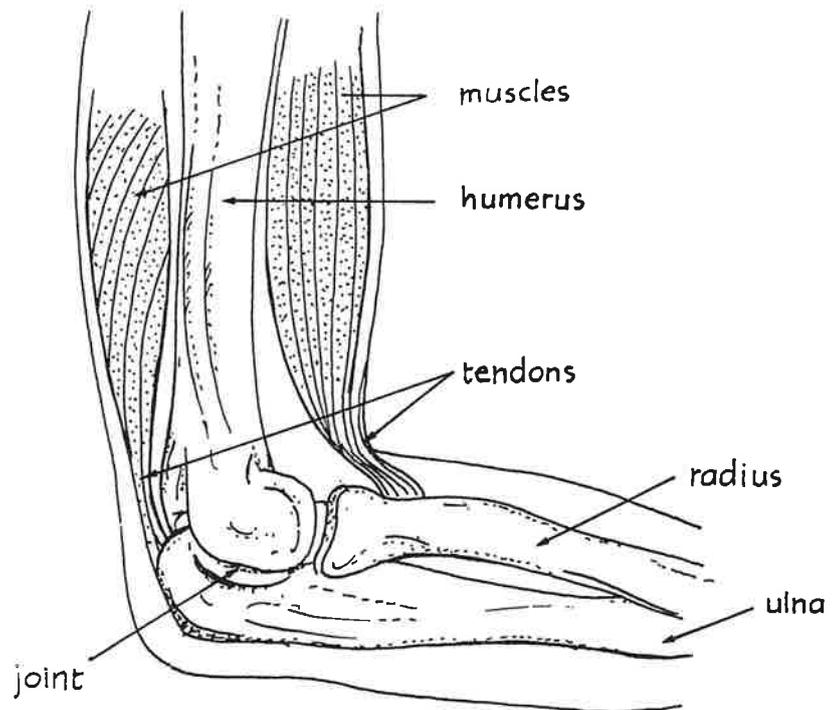
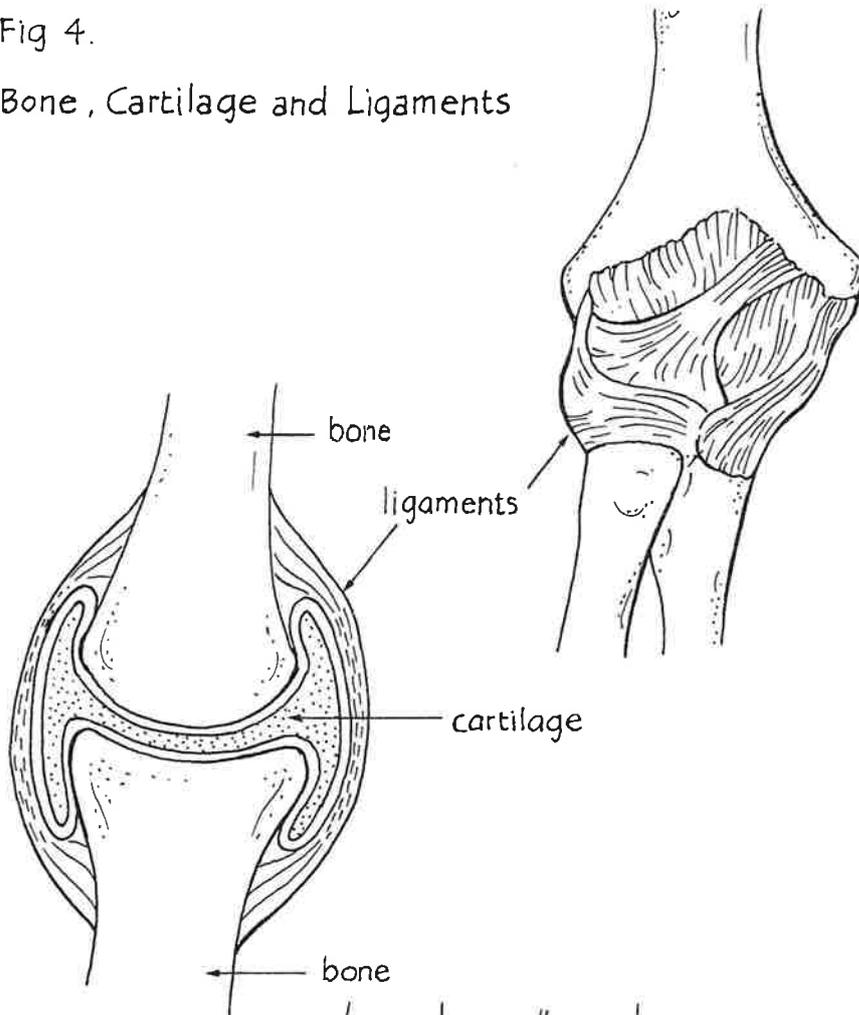
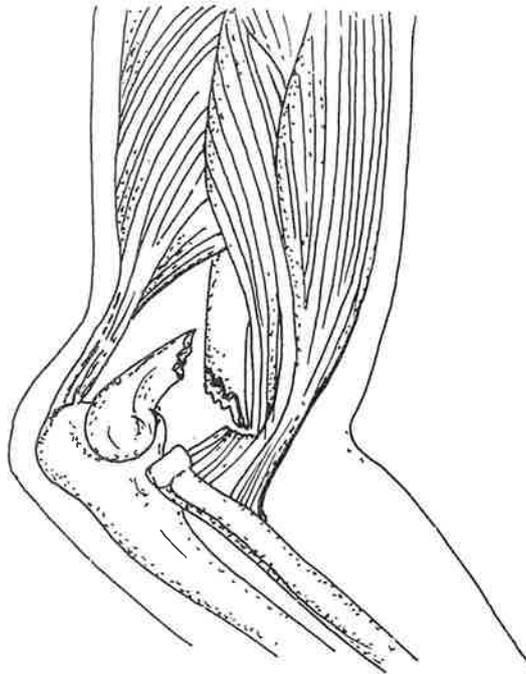


Fig.5 Bones, Joint and Muscles



Consider potential damage to muscles, tendons, nerves and blood vessels by moving the arm.

Fig. 6 Fracture

MODULE 6

SPINAL CORD INJURIES

PRESCRIBED REFERENCES:

Australian First Aid, Vol 2
St John Ambulance Australia, 1989 (AFA)
Supplementary Training Material

INTRODUCTION:

A spinal cord injury is one of the most disabling traumatic conditions affecting individuals. It causes not only physical disability in the affected individual but also immense psychological impact upon the patient, the patient's family and friends. The age group mainly affected by spinal cord injuries is the adolescent and young adult. This group has a lifestyle that predisposes it to the types of situations that cause spinal cord injuries. In Australia, approximately 50% of spinal cord injuries are the result of road traffic accidents. Diving accidents are responsible for a further 10-12%. The remainder occur in the sporting, occupational and domestic environments.

The Vertebral Column

The spinal column consists of a row of 33 individual bones called vertebrae which are aligned one on top of the other. The lowest four vertebrae are fused to form the coccyx and the five vertebrae immediately above the coccyx fuse to form the sacrum. The remainder are connected to each other by small joints formed by the bones themselves, together with ligaments and muscles which attach along the length of the vertebral column and in between the individual bones.

Each vertebra consists of a body and an arch. The body is largely weight bearing and the arch surrounds and protects the spinal cord. A vertebral body is separated from its neighbours by a disc which essentially functions as a "shock absorber". The backs of the bodies and the arches of the vertebrae form a canal known as the spinal canal through which the spinal cord passes. The vertebrae and discs are attached to each other by a complex arrangement of ligaments and supported by several arrangements of muscle layers. The muscles, ligaments and discs provide stability and control movement. On each side of each vertebral arch just behind the vertebral body, the nerves to the body emerge.

The Spinal Cord

The spinal cord can be likened to a series or collection of electrical conduits in which nervous impulses are transmitted from the body to the brain and vice versa. Just below each vertebra, these impulses either continue to be transmitted uninterrupted in their conduits or are tapped by "modulating mechanisms" or "electrical sub-stations" and directed out to the body in order to cause or change a function. Sensory impulses are also received by each "sub-station" and transmitted up the spinal cord to the brain for interpretation. The transmission cables from the cord to the body are called nerves and transmit impulses both ways.

The nerves described above carry motor, sensory and autonomic messages to and from the body.

Motor nerves cause movements by initiating muscular contraction.

Sensory nerves transmit sensations such as pain, temperature and touch from the extremities to the spinal cord.

Autonomic nerves modulate the intensity of autonomic (or automatic) functions such as heart beat, sweating, respiration and digestion, depending upon the needs of the body at any point in time.

Body (Vertebral) Injury

The types of injury that result in spinal cord damage are:

- Fractures
- Dislocations
- Subluxations (partial dislocations)
- or combinations of the above.

These can be classified as stable and unstable. However, proper x-ray evaluation is required for classification and thus beyond the capability of a first aider at the scene of an incident. Therefore, all suspected injuries to the vertebrae must be considered to be and thereafter treated as unstable.

Spinal Cord Injury

Following an injury which causes spinal cord embarrassment, a wide spectrum of damage from minor bruising or swelling to total division of the spinal cord may result. However, it is impossible to predict the quantity and permanency of cord damage from the signs at the time of the accident. The fact that a person has no feeling and no movement does not mean that the cord is necessarily torn and will not recover. Therefore, all patients with spinal cord signs must be treated as though the injury could recover. In addition, twisting or bending an injured spinal column may increase the cord damage caused at the time of the initial injury or damage the cord even though it was not initially damaged.

An injury to the spinal cord will produce the following signs below the injured level:

- Total or partial muscular weakness or paralysis.
- Loss of or altered sensation.
- Altered autonomic function control.

Quadriplegia

Quadriplegia is produced by a neck injury. It involves paralysis of the upper limbs, lower limbs and trunk muscles.

Paraplegia

Paraplegia is paralysis involving the lower limbs and some or all of the trunk muscles. It is the result of an injury involving any part of the vertebral column below the neck.

Causes of Spinal Cord Injury

The same mechanisms of injury causing fractures and dislocations apply. These are:

- Direct force.
- Indirect force.
- Abnormal muscular action.

More specifically, the situations which result in spinal cord injuries are:

1. A fall from a height;
2. A direct blow to the spine including penetrating injury such as gunshot or knife wounds;
3. Jackknifing;
4. Diving or surfing accidents;
5. Sudden acceleration or deceleration to or from high speed e.g. aircraft or high speed motor vehicle accidents or a blow to the forehead of a competitor running past during a sporting event.
6. Where a person becomes a projectile, e.g. a person knocked off a bicycle and propelled a distance.

Spinal cord injury must also be considered in all persons with severe head injuries or where an incident has resulted in the death of another victim.

ASSESSMENT OF THE INJURED PERSON:

History

The patient and observers must be questioned as to what happened in addition to the mechanism and magnitude of the forces involved. The first aider must appreciate and recognise the various types of situations that potentially cause spinal cord injuries.

Presenting Features

(a) The Conscious Victim.

Symptoms:

Pain at or below the level of the injury.

Absent or altered sensation below the injury e.g. pins and needles.

Absent muscular power or weakness below the injury.

Signs of Bony Injury

Tenderness over the injured area of the spinal column.

Deformity of the spine is relatively uncommon, should not be looked for if it cannot easily be felt when assessing the tender area.

Swelling and deformity are usually minimal at the time of the injury and thus their absence does not exclude significant bony injury.

Signs of Cord Injury

Motor:

Reduced or absent muscle power on asking the patient to move upper and/or lower limbs.

A poor cough may indicate weak chest and abdominal wall muscles.

In neck and upper thoracic spine injuries, paradoxical movement of the chest wall will be present. This is called paradoxical breathing.

Sensory:

There will be altered or absent sensation below the injury.

It must be remembered that a neck injury affects the upper limbs.

Compare limbs and trunk sensation with that of the face as the sensation to the face will not be affected by spinal cord injuries and is therefore normal.

Autonomic:

The usual signs of shock (as haemorrhage) cannot occur as the nervous impulses that would produce these signs are interrupted. In neck and upper thoracic injuries, the exact opposite happens.

1. The pulse rate is usually slow.
2. The pulse strength is either weak or near normal.
3. The skin remains dry, warm and its colour normal or slightly pinker than normal. This is because blood vessels lose their ability to constrict as their nerve supply is not functioning.
4. A male patient will have an erection as the penile blood vessels fill with blood.
5. Breathing will increase in rate but its depth will be reduced owing to muscular weakness of the abdominal and chest wall muscles. Paradoxical breathing will be present. Cough will be poor.
6. Following injury, the stomach and intestine will stop absorbing its content. Thus there is a potential hazard of the victim quietly regurgitating whilst lying flat on the back.
7. The victim will be unable to evacuate or empty bladder and bowel owing to paralysis of those muscles.

(b) The Unconscious Victim

Spinal cord injuries need to be suspected in all unconscious persons as a result of injury. It is unlikely that a first aider, who is not skilled assessing spinal cord injuries, will be able to confidently diagnose such an injury in an unconscious casualty. But that does not matter. The approach is that of an unconscious victim. Whether that victim has a spinal cord injury or not does not matter until the dangers and life threatening problems have been assessed and treated. Thus, the unconscious victim will be on his or her side at the time of examination for other injuries.

For completeness, the signs which may assist in making a diagnosis of a spinal cord injury in the unconscious victim are:

1. Loss of muscular tone in upper or lower limbs.
2. No response to painful stimuli in the upper limbs, lower limbs or trunk when a painful grimace is noted on testing for painful stimulus of the face.
3. Dry and relatively warm skin in the presence of a slow, either weak or normal strength pulse.
4. Paradoxical breathing.
5. The presence of an erection in the male.

Internal Haemorrhage

This must be suspected in all victims who have suffered a spinal cord injury as the usual signs of blood loss do not occur.

Management of Spinal Cord Injury

If the victim is unconscious at the time of initial assessment, follow the DRABC rule and then place in the lateral position, in the usual manner. Then continue the examination of the casualty on the side.

If the casualty is conscious:

Reassure.

Loosen tight clothing.

Do not move the casualty unless this is essential because of danger.

Unless circumstances make it necessary leave lifting, loading and transportation to a qualified person, such as an Ambulance Officer. It is preferable that the casualty be transferred on to a stretcher using a lifting frame.(See Chapter 27, AFA).

Support the head and neck by hand until other support can be arranged; this especially important if the patient is found in a sitting position when trapped in a motor car.

Apply a cervical collar if available, otherwise using a folded towel, newspaper or a bulky dressing around the neck.

If a previously conscious casualty becomes unconscious, the main problem is the airway and the victim must be placed in the coma position. It is advised that where possible, an improvised collar be applied prior to rolling.

When a diving accident has occurred:

Use a flotation or surf board if handy to support the casualty prior to removing from water.

Leave the casualty on the board until a doctor or other qualified person has examined him and decided what to do.

An aqua-stretcher fitted to a Jordon Lifting Frame is useful. (See Chapter 27, AFA).

JORDON OR DONWAY LIFTING FRAME

A rigid frame with plastic gliders, the Jordon frame can be used to lift an injured person with little or no disturbance or movement of the injuries.

This type of device is particularly useful for a casualty with suspected spinal injury or other major injury if the frame can be placed around an accessible casualty.

The Jordon frame is placed around the casualty. There are a number of prongs along the length of the frame and holes in each end of each glider. The plastic gliders are slid underneath the casualty. This is done without altering the casualty's original position. Each end of each glider snaps onto the prongs of the frame. The position and tension of each slat can be adjusted individually against the casualty's body.

The frame can then be lifted so that a stretcher can be placed beneath it or it can be carried a very short distance to an awaiting prepared stretcher.

It must be stressed that lifting frames are not stretchers and where possible do not replace them. The design of the frame allows hand position to be comfortable during lifting but not for carrying. The slats can dislodge and the surface is slippery.

If no stretcher is available, the patient must be secured to the frame as in a normal stretcher to prevent the limbs moving or the patient slipping off.

An inflatable mattress device called an Aqua-Stretcher can be attached to the Jordon frame. It is fitted to the frame, inflated and passed under the casualty in water. Once the casualty is on the Aqua-Stretcher, a harness is then passed over the casualty allowing the victim to be safely lifted to a boat, floated to shore or air lifted.

SPINAL INJURIES

INTRODUCTION:

- The Vertebral Column — Basic Anatomy
- The Spinal Cord — Basic Normal Physiology
- Vertebral Injury — A Brief Discussion
- Spinal Cord Injury — Brief Explanation of Pathophysiology
- Definitions — Quadriplegia
- Paraplegia
- Causes of Spinal Cord Injury

ASSESSMENT OF THE INJURED VICTIM:

History — Symptoms and signs.

- a. The Conscious Victim.
 - Vertebral Injury
 - Cord Injury
 - Motor
 - Sensory
 - Autonomic effects
- b. The Unconscious Victim.

MANAGEMENT OF SPINAL CORD INJURY:

- a. The conscious victim.
- b. The victim that becomes unconscious.
- c. The unconscious victim.

LIFTING FRAMES

SKILLS MAINTENANCE:

1. Using lifting frames.
2. Creating an improvised collar
3. Application of a CIG transport collar.

APPLYING A CERVICAL COLLAR

- Check A B C.
- Ensure support of the head and neck from the back if possible.
- Select appropriate width of cervical collar. (see Fig 7 below).
- Mould collar firmly to suit circumference of neck.
- Secure with velcro strapping at back of neck.
- Use padding over upper edge of collar if necessary.
- Check to ensure that there is no pressure on airway.
- Practise making and fitting improvised collars.

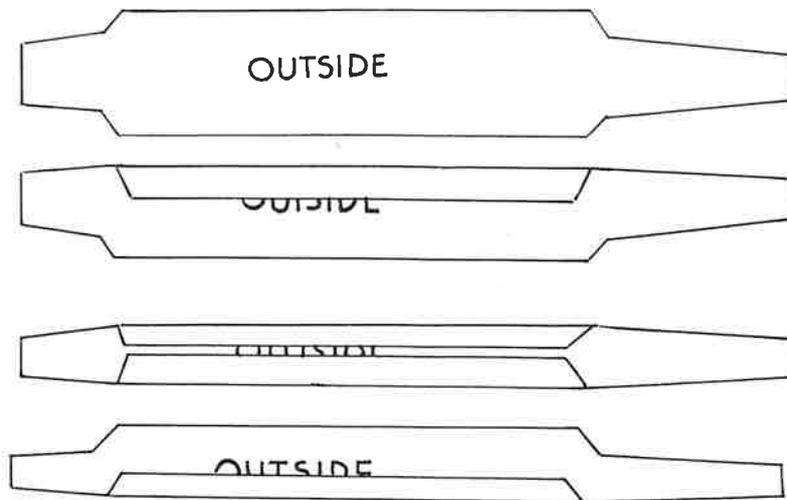


Fig. 7 Cervical Collar, Widths

Practical Skill mastered

Signed:

Date:

PREPARE AND APPLY AN IMPROVISED CERVICAL COLLAR TO A PATIENT

A. MAKING AN IMPROVISED CERVICAL COLLAR

The function of a cervical collar is to help support and minimize movement of the neck of a patient with suspected cervical injury and to avoid further injury which may damage the spinal cord and result in paralysis. A cervical collar should always be used whenever there is the slightest possibility of injury to the cervical spine.

B. PREPARING A COLLAR

- Use something firm for the core of the collar e.g. folded newspaper or cardboard.
- Wrap the core material in something absorbent and/or soft e.g. towel.
- Ensure that collar is the correct size before beginning application:
 - the correct width,
 - the correct length.

If you do not have anything from which to make the core, it is best to fold firmly an article of clothing or linen to the correct size and apply.

IMPORTANT: WITHOUT A FIRM CORE THERE IS ADDED POSSIBILITY OF PRESSURE ON THE TRACHEA.

PREPARE AND APPLY AN IMPROVISED CERVICAL COLLAR TO A PATIENT

| CHECKLIST | TICK |
|---|------|
| — Check A.B.C. | |
| — Prepare cervical collar. | |
| — Inform patient of procedure. | |
| — Remove obstructing neckware (ties, jewellery). | |
| — Support the head and neck from behind if possible (using a second person when possible). | |
| — Mould collar firmly around neck. | |
| — Tie collar into place with string, bandage etc. | |
| — Check there is no pressure on the airway. | |
| — Check collar is firm enough to provide support and stability | |
| — Ensure patient comfort (to ensure effectiveness and adequate support, some discomfort is inevitable). | |
| — Recheck A.B.C. | |

Practical Skill mastered

Signed:

Date:

PART TWO

MODULE 7

EXAMINATION OF THE EYE

PRESCRIBED REFERENCES:

Australian First Aid Vol 1,
St John Ambulance Australia 1989 (AFA)

OBJECTIVES:

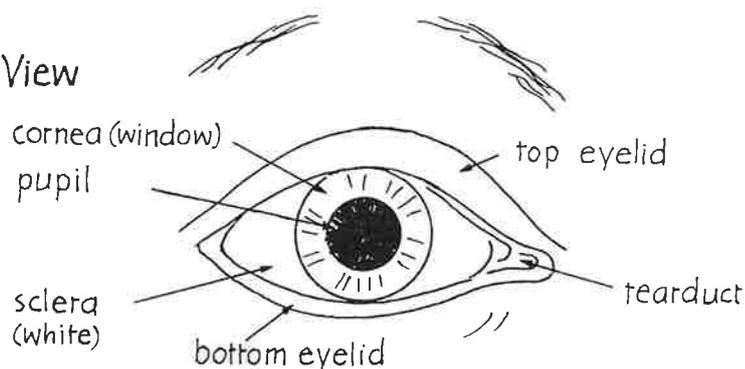
After reading the prescribed text, the information contained in this module and receiving one period of instruction from the Divisional Surgeon, R.N. or Ambulance Officer, the St John member will:

1. Show an understanding of the basic surface and internal anatomy of the eye.
2. Know when not to examine an eye injury.
3. Correctly position the casualty before examination.
4. Provide the best lighting available.
5. Ensure security of the casualty and the first aider from jostling.
6. Carry out initial examination of eye.
7. Carry out detailed examination of lower eyelid.
8. Carry out detailed examination of upper eyelid.
9. Remove a foreign body from the eye showing due care and recognising the prohibited area of the cornea.
10. Return upper eyelid to normal.
11. Describe the technique of washing out of the eye.

1.0 SURFACE ANATOMY OF EYE:

Fig. 8

The Eye - Anterior View



1.1 INTERNAL ANATOMY OF EYE

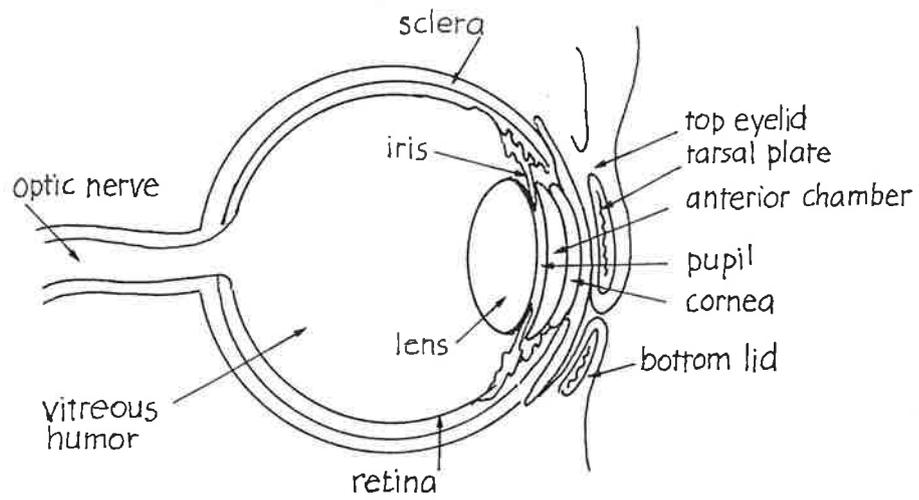


Fig.9 The Eye - Lateral View

2.0 CRUSH OR PENETRATION INJURY OF THE EYE

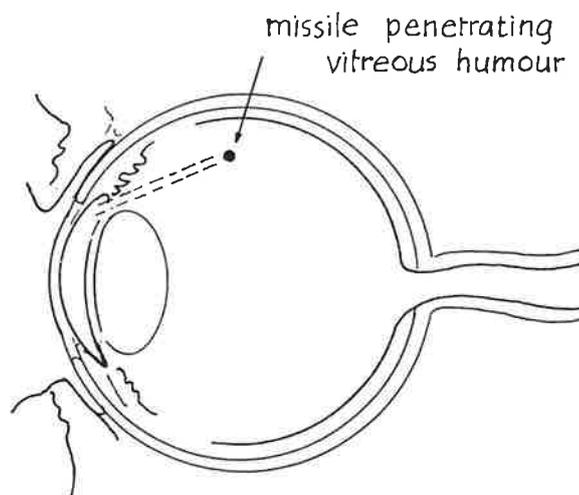


Fig.10 Penetrating Eye Injury

IF YOU SUSPECT THAT THERE MAY BE A PENETRATING WOUND OR CRUSH INJURY OF THE EYE BALL *UNDER NO CIRCUMSTANCES WILL YOU EXAMINE THE EYE.*

Where there is a wound to the eye or a crush injury the patient must:

- 2.1 Be placed at rest in a darkened and quiet place;
- 2.2 Have dressings placed over *BOTH* eyes. (Remember that when one eye moves the other eye moves as well.)
- 2.3 Have no pressure placed on the injured eye(s).
- 2.4 Never be left alone. The casualty has just suffered an injury to his eye and because of the dressings he is in total darkness. He will need reassurance, probably more than most patients. Body contact helps orientation e.g. hold his hand.
- 2.5 Be encouraged not to cough, sneeze, vomit at all costs, as the eyeball may collapse.
- 2.6 Be urgently transported to medical aid in a very gentle and quiet manner.

3.0 POSITIONING OF CASUALTY BEFORE EXAMINATION:

- 3.1 Prepare sterile gauze, tape, eye pads, eye wash, pen torch, matches or cotton buds close at hand.

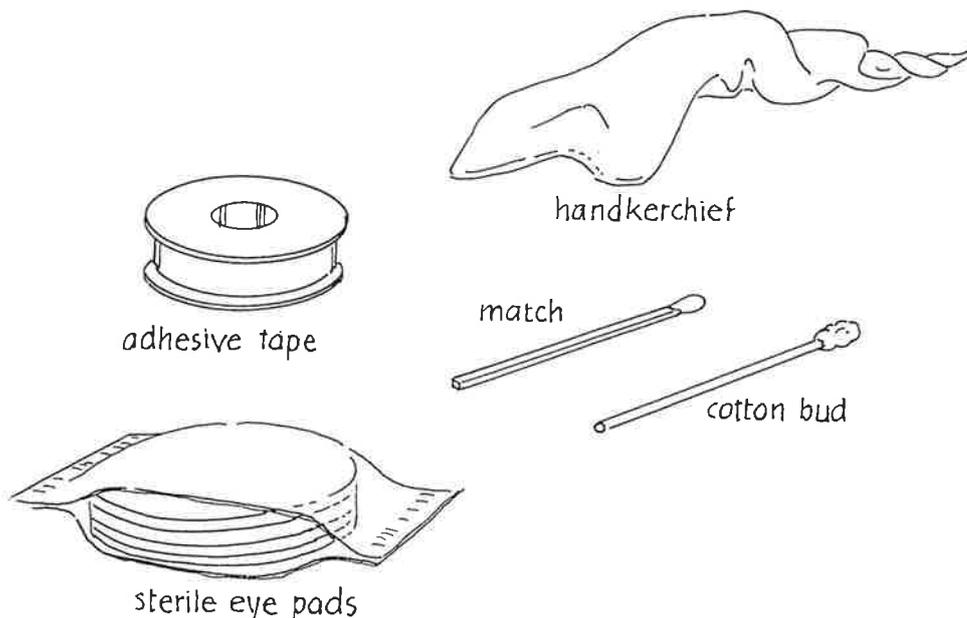


Fig. 11 Eye Examination - Equipment

- 3.2 Place a chair in a corner of the room away from doorways and main traffic areas of the room.
- 3.3 Have the casualty sit down in the chair and explain what you are going to do. Emphasise that the procedure may be uncomfortable but that you will require his assistance in keeping his eyes open and his head back.
- 3.4 Have the casualty hyperextend his head so that he is looking at the ceiling.

4.0 PROVIDE BEST LIGHTING AVAILABLE:

- 4.1 Ensure that there is good light directly on to the casualty's face and placed so that shadows from your hands do not fall across the eye to be examined. Have casualty relax.

WASH YOUR HANDS NOW

5.0 ENSURE SECURITY OF PATIENT:

- 5.1 Stand directly behind patient and have him hyperextend his head again. To maintain security to the patient by prevention of damage to the eyes through jostling, your hands should be wherever possible clamped/fixed firmly onto the patient's head.



Fig. 12. Eye Examination - Preparing the Patient

6.0 INITIAL EXAMINATION:

- 6.1 Have the casualty open his eyes widely. Do not touch at this stage, but look for foreign bodies, blood or damage on or within the cornea. If there is blood or damage on or within the cornea, cease examination and treat the casualty for a crush or penetrating injury of the eye. If there is a foreign body on the cornea have the casualty blink. If blinking dislodges the foreign body then remove it when it is on the sclera. If the foreign body does not move treat the casualty for a crush or penetrating injury of the eye.
- 6.2 After checking the cornea check the sclera for wounds, foreign bodies or areas of reddening. Have the casualty look up and look down as this will expose more of the sclera to your vision. If you see the foreign body remove it at this stage.

7.0 DETAILED EXAMINATION OF THE LOWER LID:

- 7.1 Have the casualty look towards yourself (behind).
- 7.2 Place your thumb on the skin of the lower border of the lower eyelid.
- 7.3 Gently pull/push the skin of the eyelid down over the cheek bone. This will lift the lower eyelid up and away from the eyeball.
- 7.4 Use the pen torch to light the underside of the lower lid and inspect carefully, starting at the nose and working out towards the ear. Remember to keep the casualty looking up.

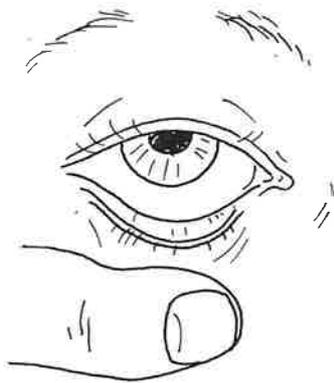


Fig. 13 Examining Lower Lid

8.0 DETAILED EXAMINATION OF THE UPPER LID:

- 8.0 Allow the casualty time to get his breath before beginning this stage of the examination. Explain to him, again, what you are about to do. Let him know that there will be some discomfort but impress upon him the importance of keeping his eyes open.
- 8.2 Ask the casualty to look down.
- 8.3 Grasp the lower border and eyelashes of the eyelid.
- 8.4 Pull the lid down over the lower eyelid and lift it away from the eyeball.

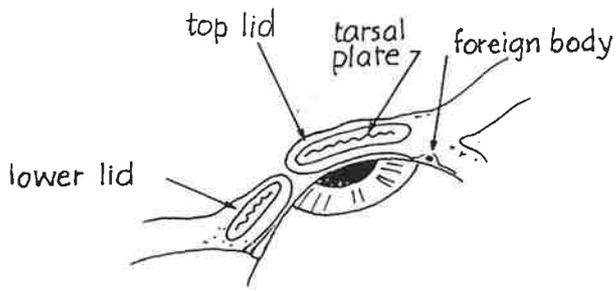


Fig.14 Foreign Body Lodged Under Top Eyelid

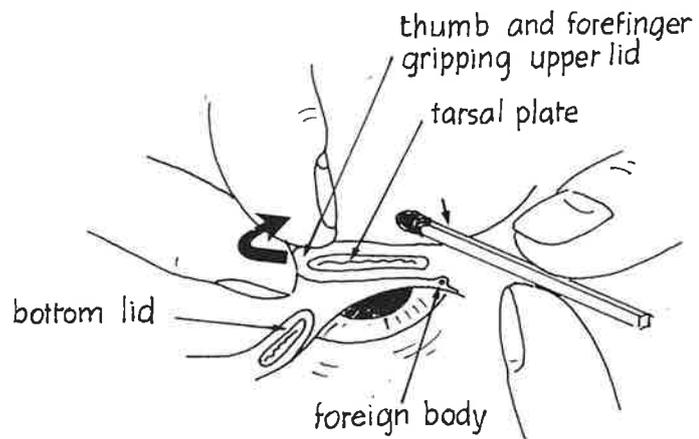


Fig.15 Everting Top Eyelid

- 8.5 If the foreign body is not removed you will have to evert the upper lid in order to inspect the upper hemisphere of the eye.
- 8.6 Select a smooth matchstick, place it in the depression just inside the upper border of the orbit.
- 8.7 Ensure that the end of the match is 2/3 of the way along the eyelid.
- 8.8 Have the casualty look down again. Take hold of the lower border and the eyelashes of the upper eyelid and pull the eyelid up and over the match.

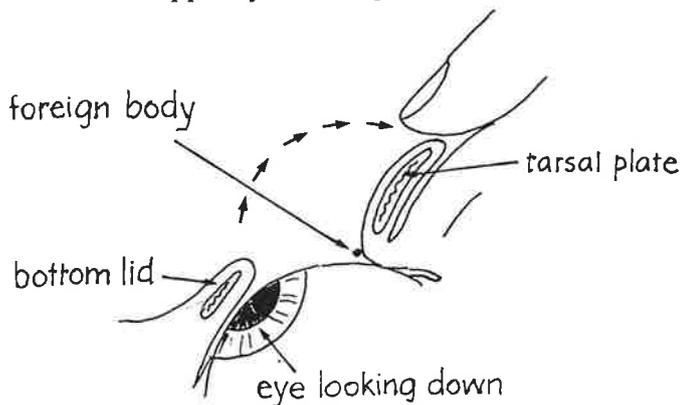


Fig.16 Top Eyelid Everted

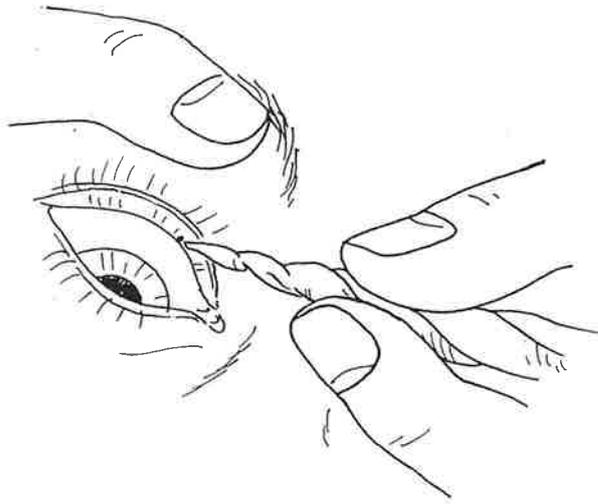


Fig.17 Removal of Foreign Body from Everted Upper Lid

- 8.9 Carefully remove the matchstick and inspect the everted eyelid. Once the foreign body is located remove it with a wisp of cotton wool or a corner of material.
- 8.10 If the foreign body does not move or if you are unable to locate it, place a pad over the casualty's eye and send him to medical aid.

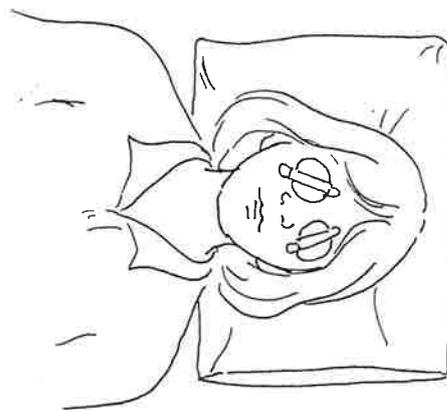


Fig.18 Treatment and Care

9.0 REMOVAL OF FOREIGN BODY:

- 9.1 Remove foreign bodies from the white part of the eye and from under eyelids only. NEVER attempt removal from the cornea.
- 9.2 Make one or two attempts to remove the foreign body using a wisp of cotton wool or corner of handkerchief.
- 9.3 Use of an eyewash bottle may remove the foreign body at this stage.

10.0 RETURN UPPER EYELID TO NORMAL:

- 10.1 Ask the patient to look up as far as he can.

11.0 IRRIGATION OF THE EYE:

- 11.1 Eye irrigation is used to remove foreign bodies, wash out and dilute any irritating substance.

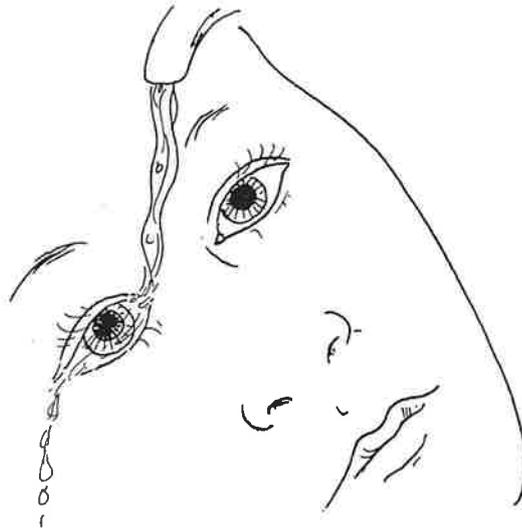


Fig. 19 Washing the Eye

- 11.2 Water is the most convenient solution for irrigation of the eye, because it is generally available in large quantities and is safe and easy to use.
- 11.3 Have the casualty positioned as if you were going to examine the eye but with his head tilted to the affected side.
- 11.4 Evert the lower eyelid and direct a gentle stream of water into the corner of the eyelid nearest the nose.
- 11.5 Use plenty of water. Be very gentle and do not use a high speed jet of fluid.

- 11.6 Lift the upper eyelid and direct a gentle stream of water into the corner of the eyelid nearest the nose.
- 11.7 If necessary evert the upper eyelid and irrigate the eyeball in order to remove all traces of the irritating substance.

MODULE:

OBJECTIVE

On completion of the training period and after practising the practical skill listed below (to the satisfactory performance level as per the module points/checklists) the St John member will be able to apply one or more of these skills to a mock practical incident:-

PRACTICAL SKILLS

1. Assess and examine the eye.
2. Irrigate eyes.
3. Instil eye drops.

STORES REQUIRED

- Matchstick/cotton applicator.
- Light/torch pen.
- IV giving set.
- IV solution — normal saline.
- Eye stream.
- Tapwater (boiled cooled) in container.
- Towels.
- Eye dropper.
- Eye drops (e.g. balanced salt solution or boiled cooled tapwater).

1. ASSESSMENT AND EXAMINATION OF THE EYE:

Pre-requisite: Basic knowledge of eye anatomy.

NOTE: This practical skill only includes examination of the eye, and not removal of foreign bodies.

| STAGES | KEY POINTS |
|-------------------------------------|---|
| 1. Check area surrounding the eye. | <ul style="list-style-type: none"> — eye brows; — eyelids; — eyelashes; — remove all obvious dirt before proceeding to next step. |
| 2. Check the eye (use a pen torch). | <ul style="list-style-type: none"> — cornea; — iris; |

- conjunctiva;
 - pupil.
3. Examine the lower lid.
 - instruct the patient to look up;
 - gently draw the lower lid downwards and away from the eyeball to expose area;
 - observe for redness, swelling and foreign material.
 4. Everting the eyelid to examine upper lid.
 - Instruct the patient to look down then gently grasp the eye lashes of the upper lid;
 - pull the upper lid downwards and forwards over the lower lid;
 - *NOTE:* this helps dislodge any particles.
 - Place a smooth match stick or stem of applicator at the base of the upper lid;
 - Press it gently backwards, then instruct the casualty to look downwards.
 - Take hold of lashes of the upper lid and pull up and over the match stick or applicator stem.
 - Observe for any redness, swelling and foreign material
 5. Place upper lid to original position — ask the patient to look upwards.
 - If patient unable to cooperate, eye-lashes can be gently lifted, and moved towards lower lid pulling gently at the same time.

Practical Skill mastered

Signed:

Date:

2. IRRIGATE THE EYES:

INSTRUCTIONS

1. Instruct casualty to incline head to the side to be irrigated with neck extended.
2. Hold eyelids apart with thumb and index finger of one hand, this is easier if the person tries to open the other eye.
3. Commence running the fluid at an even rate across the eye. *NOTE* — from the inner corner to the outside of eye.
4. Repeat procedure for other eye.
5. Irrigate for an appropriate time to achieve the best benefit for the casualty.
6. Record information.

Practical skill mastered

Signed:

Date:

3. INSTIL EYE DROPS:

SATISFACTORY
TICK

| | | |
|-----------------------------|--|--|
| Preparation | Wash hands. Communicate with patient. | |
| Administration of eye drops | Attend to patient in good light Select correct medication Draw up medication correctly Tilt the patient's head back Stand in the correct position Have a steady hand Carefully lower the bottom eyelid using moistened swab Hold dropper a little above bottom eyelid and gently squeeze bulb Drop prescribed number of drops in lower lid, off centre inner eye Instruct patient to gently close eye Wipe away any medication or tears from patient's cheek Record information | |

Practical Skill mastered

Signed:

Date:

MODULE 8

MEDICAL EMERGENCIES

GENERAL OBJECTIVE

To have a basic understanding of the physiology underlying the medical problems discussed in this module.

PART 1. — LUNG CONDITIONS

PRESCRIBED REFERENCE:

Supplementary Material
Australian First Aid

OBJECTIVE:

On completion of the training period, the St John member will be able to discuss the following questions:

1. A patient comes to the First Aid station, complaining of shortness of breath. What questions do you need to ask to reach a diagnosis, and decide on the necessary treatment?
2. What problems are associated with smoking?

TRAINING SUGGESTIONS:

Contact the Asthma Foundation in your state. The Anti-Cancer Council will have information about the effects of smoking, and how to give it up.

1. BACKGROUND

Lung conditions are often recurring, and the patient will have a past history of respiratory distress. They may be able to tell you the name of their disease, the tablets they take, and the treatment they require.

In most cases, rest, reassurance and oxygen are the only treatments possible until the patient reaches medical aid. Patients suffering from respiratory distress should be given oxygen if this is available and permitted.

There are several lung conditions which may cause respiratory distress and a medical emergency.

a) Asthma

Asthma is a chronic, recurring condition, where the patient has shortness of breath and wheezing. In children with asthma, a cough is usually the main symptom.

A severe asthma attack may be fatal. The patient may be so short of breath that they are unable to speak. The typical wheeze may even disappear, as the patient can not move enough air to make any noise at all.

ANY PATIENT WHOSE ASTHMA DOES NOT RESPOND TO THEIR NORMAL MEDICATION SHOULD HAVE MEDICAL AID URGENTLY.

NOTE: In most states, ambulances carry treatment for asthma emergencies.

Asthma attacks can be set off by exercise, stress, chest infections or a cold, and exposure to cigarette smoke and other pollution.

b) Chronic Bronchitis and Emphysema

Both of these conditions are progressive i.e. gradually worsen over the years, can be kept under control but not cured, and are almost always caused by smoking.

In severe, later stages of the disease, the patient will be short of breath most of the time, and may require oxygen at home for the simplest activity — like sitting up, or breathing. The patient may be constantly cyanosed.

An acute chest infection on top of chronic bronchitis or emphysema can result in very severe respiratory problems for the patient.

c) Pneumothorax

Pneumothorax is the medical term for collapsed lung. It may occur as a result of trauma, or may happen spontaneously. Spontaneous pneumothorax is more common in younger people, asthmatics and smokers. Air escapes from the damaged surface of the lung and builds up between the collapsing lung and the chest wall.

The patient may experience a sharp pain at the time the lung 'pops', but usually all they notice is increasing shortness of breath and some chest pains.

A chest x-ray is essential for anyone with a suspected pneumothorax. They need urgent hospital assessment.

d) Infections

Any part of the airways or lungs can become infected.

- Acute Bronchitis — This is an infection of the bronchi, the major tubes leading into the lungs. This often follows a cold, and the patient will have a moist cough, bringing up yellow or green sputum.

Home care includes rest, steam inhalations and antibiotics.

- Pneumonia — Pneumonia is an infection of the actual lung tissue, and can affect one area of one lung, or both lungs all over.

The patient will look SICK — feverish, weak and short of breath — and may complain of chest pains, with harsh, shallow respirations. There may be no cough at all, especially in young babies and the very old.

- Pleurisy — Pleurisy is an infection of the pleura, the lining of the lung. It usually follows a cold or another type of chest infection.

The patient will complain of a severe sharp pain travelling along the line of a rib when they cough, move or breathe deeply. This kind of pain is called PLEURITIC pain, and can also occur with bruised or broken ribs, or sprained muscles in the chest.

- Childhood infections — CROUP is a viral infection causing laryngitis and cough in children. It is often worse at night, when the air is cold. The cough

usually settles if the child is put into a steamy room e.g. bathroom with the hot tap running. In severe cases the child will have noisy respirations.

EPIGLOTTITIS is an infection of the epiglottis at the back of the throat. A child with epiglottitis will be very sick, very still, and breathing noisily. Usually the child has become ill over a couple of hours. THIS INFECTION CAN BE FATAL. It is important that the child be kept calm.

ANY CHILD WITH NOISY OR DIFFICULT BREATHING SHOULD RECEIVE URGENT MEDICAL ATTENTION.

e) Pulmonary Oedema

Pulmonary oedema, or 'fluid on the lungs', results from heart failure. The right ventricle has been weakened for some reason — an old heart attack, high blood pressure, infection — and cannot pump out all the blood that is pumped into it. Therefore the lungs will fill up with excess fluid.

The patient becomes short of breath and cyanosed over a short time. They usually cough up pink, frothy sputum.

Give oxygen, sit the patient up, and loosen their tight clothing while waiting for medical aid.

f) Emotional Overbreathing

Refer 1989 Skills Maintenance and Re-Examination Program.

2. TAKING A HISTORY

In any situation where the patient complains of problems associated with their breathing, they may have any of these symptoms:

- choking feeling
- "can't get enough breath in"
- "can't take a deep breath"
- chest feels tight
- feeling wheezy
- "short of breath"
- chest pains
- cough
- dizziness
- pins and needles in hands and feet and around mouth.

You should ask three main questions:

- i) What has happened over the last few days?
- ii) Has this ever happened before?
- iii) What medication are you taking?

3. OBSERVATIONS

There may be NO signs of the patient's lung condition, or you may observe any of the following:

- increased respiratory rate
- noisy breathing
- laboured breathing (where the casualty's whole chest seems to heave with every breath).
- increased pulse rate
- cyanosis (blue lips)
- frothy or blood-stained sputum

- anxiety, confusion or restlessness
- evidence of chest injury.

4. FIRST AID MANAGEMENT

There are only a few things that can be done in a First Aid setting for a person suffering an acute respiratory illness, but these things can be life-saving.

- a) Rest, reassurance and position of comfort.
- b) Help the patient to take their medications.
- c) Oxygen therapy (if this is allowed in your district)
 - 2 litres/minute by nasal cannula
 - 6-8 litres/minute by face mask
- d) Organize medical aid.
- e) Expired Air Resuscitation, or Soft Bag Resuscitation.

5. MEDICAL AID

Medical aid is essential in the following situations:

- a) An asthmatic patient who is not improving despite taking extra medication.
- b) Any child with noisy breathing, especially if they are feverish.
- c) Anyone who is cyanosed.
- d) Anyone whose condition is deteriorating.

6. FOLLOW UP ADVICE

The First Aid room is an excellent place to give out health advice. It is appropriate to advise our patients that cigarette smoking is very damaging to lungs. It increases the chance of getting just about every lung condition, and delays recovery. If the patient smokes, their children are more likely to have asthma.

PART 2. — DIABETIC EMERGENCIES

PRESCRIBED REFERENCES:

Supplementary Material

OBJECTIVES:

On completion of the training period the St John member will be able to discuss the following questions:

1. What is the difference between Hypoglycaemia and Hyperglycaemia?
2. A diabetic comes into your First Aid area and says "I think I have just given myself too much insulin!" What do you do next?

TRAINING SUGGESTION:

Contact the Diabetes Foundation in your state.

Diabetes is a disease caused by the body's inability to process sugar.

Normally, sugar from all foods enters the bloodstream, and insulin helps the sugar pass from the blood into the cells of every part of the body. The sugar, in the form of glucose, is used for energy.

Insulin is produced in the pancreas, but if the pancreas is diseased or not working properly, it won't make enough insulin. The sugar then builds up in the bloodstream, causing the symptoms of diabetes.

There are two types of diabetes:

1. Insulin Dependent Diabetes.

This is the more severe form, usually arising before the age of 25. These people require insulin injections several times a day, very careful diet, and regular testing of their blood sugar levels.

2. Non-insulin Dependent Diabetes

This arises in older people, and usually can be controlled by diet and tablets alone.

HYPERGLYCAEMIA:

Hyperglycaemia means high blood sugar. This comes on slowly, over several hours or days. It can occur as the first illness of someone who doesn't *know* they are diabetic, or in a diabetic who hasn't taken their medication, is eating too much, or is ill.

The *symptoms* are: — thirst
— nausea and vomiting
— frequent urination.

The *signs* are: — hot, dry skin
— fast pulse
— drowsiness, confusion
— possible acetone smell on the breath.

Diabetics with hyperglycaemia must be taken to hospital.

HYPOGLYCAEMIA:

Hypoglycaemia — also called a 'hypo' — means low blood sugar. It occurs in known diabetics, over a matter of *minutes*, and can be *fatal*.

1. Situations where Hypoglycaemia may occur.

Hypoglycaemia may occur when:

- a) A diabetic has not eaten enough e.g. missed a meal;
- b) A diabetic has exercised much more than usual;
- c) A diabetic has been vomiting, or had a fever;
- d) A diabetic has injected too much insulin.

2. Symptoms and Signs of Hypoglycaemia.

These may arise very rapidly, with only a few minutes between the first symptom and unconsciousness.

Symptoms include — weakness, faintness
— dizziness
— nausea

Signs may include — pale skin
— cold and clammy skin
— rapid pulse
— may appear to be drunk

- confusion and drowsiness
- may be aggressive
- unconsciousness

3. Treatment

YOU CAN'T TREAT HYPOGLYCAEMIA IF YOU DON'T THINK OF IT.

Diabetics often wear identifying bracelets, and carry their insulin with them.

If the patient is *unconscious*, seek urgent medical aid.

If the casualty is *conscious* i.e. responsive to command, give something sweet — soft drink, orange juice with extra sugar, a lolly or honey. The patient should respond very quickly, but will need *extra sugar* soon.

After five minutes give the patient something to eat, such as a sweet biscuit, or a piece of bread. After 15 minutes, give another sweet drink.

If you are unsure whether the patient is having problems with high blood sugar or low blood sugar — give sugar anyway. Giving a bit of sugar to someone who is already hyperglycaemic will not make too much difference. Giving sugar to someone who is hypoglycaemic could be lifesaving.

4. Follow Up

A diabetic who has had a 'hypo' will need follow up in hospital or with their own doctor to determine the cause.

A diabetic who has had a 'hypo' should not leave the First Aid room unaccompanied, unless they have been given an 'all-clear' by a doctor.

A diabetic who does not improve rapidly after you have given them sugar, or who relapses, should receive urgent hospital attention.

A diabetic who had hyperglycaemia should be in hospital.

5. Injuries in Diabetics

In diabetics, wounds take longer to heal and are more likely to get infected.

Any diabetic who comes to the First Aid room with a wound, no matter how trivial, needs that wound to be cleaned and dressed with meticulous care. The patient should be encouraged to see their own doctor for follow up in every case.

MODULE 9

INFECTION AND COMMUNICABLE DISEASES

PRESCRIBED REFERENCES:

Australian First Aid — S.J.A.A. 1989

Care of the Sick in the Home — S.J.A.A. 1981

Supplementary training material.

OBJECTIVES:

Having studied the appropriate texts and discussed the topic with others, the St John member will be able to state the answers to the questions pertaining to this topic.

DEFINITIONS:

Infection — Invasion and multiplication of micro-organisms in body tissues, especially those causing local cellular injury due to competitive metabolism, toxins, antigen-antibody response or replication within a living cell.

Communicable Disease — A disease, the causative agents of which may pass or be carried from one person to another directly or indirectly.

TYPES OF INFECTION:

Infections can be caused by:

1. Bacteria — can be treated by antibiotics.
2. Viruses — no cures at present but may, in some cases, be prevented by immunization.
3. Fungi — can be treated with drugs.
4. Parasites — can be treated with drugs.

MODES OF TRANSMISSION:

1. Direct contact with body excreta or discharges from an ulcer, open sore, sexual contact etc.
2. Indirect contact through inanimate objects e.g. drinking vessels, toys, bedclothing, non-sterile instruments, etc.
3. Vectors — flies, mosquitoes, other insects, animals and marine creatures capable of spreading the disease.

4. Air spread — inhalation of organisms suspended in air on water droplets or dust particles.
5. Cross infection — carried from an infected person to a non-infected person via a health care attendant.

PREVENTION OF INFECTION:

1. Good Health

Fit and healthy people who have a good diet, adequate rest and exercise will fight off infection more readily than someone already unwell, overstressed or in poor condition.

2. Good Living Conditions

The best weapons against severe infections are a clean water supply, proper sewerage, and no overcrowding. Cleanliness in the kitchen and bathroom are essential.

3. Good Hygiene

- a. HAND WASHING (see *Care of the Sick in the Home* p 13)
- b. Most germs are spread through the air. Always use plenty of tissues if you have a cough or cold, and stay away from others if possible.

NEVER GO ON DUTY IF YOU HAVE AN INFECTION

- c. Avoid touching any infected wound or infected material, e.g. dressings, tissues. Treat any blood or blood-stained item as infectious, and dispose of it properly and promptly. (see AFA Vol 1 pp225-226)
- d. Wear gloves when treating ALL wounds.

4. Immunization

Immunization is available for many infectious diseases and usually gives life-long protection. Tetanus injections should be repeated every 5-10 years, or earlier if the person has sustained a tetanus-prone wound. Immunization against mumps and Hepatitis B is now available.

5. Prophylactic Medication

There are times when a known risk of infection exists. In such cases medication can be taken prior to infection to actually prevent the infection occurring.

6. Clean Food Supplies

Hygienic food packing, handling, storing and preserving are essential to the maintenance of a clean food supply.

SOME SPECIFIC INFECTIONS:

1. TETANUS

Tetanus is caused by a bacterium which lives in soil and dirt. Any wound contaminated by dirt, earth or manure — wounds from rusty nails, barbed wire, garden tools, gravel or road dirt — is a “tetanus-prone wound”. All patients with a tetanus-prone wound — no matter how small — should seek medical advice, even if they have had a recent injection.

ALL OPEN FRACTURES, BURNS AND PENETRATING WOUNDS are considered to be tetanus prone wounds.

2. HEPATITIS A (Infectious Hepatitis)

See *Care of the Sick in the Home* p91)

3. HEPATITIS B (Serum Hepatitis)

Hepatitis B is liver infection spread by direct contact with the blood, saliva or excreta of an infected person. It can be passed on by sexual intercourse. Some people are Hepatitis B carriers: The virus is in their blood, and causes them no ill-effects, but can still spread to others.

Hepatitis B is very common among some groups of people:-

- a) Aboriginal people.
- b) Intravenous drug users.
- c) South East Asian immigrants.
- d) Homosexual men with many partners.

The *symptoms and signs* of Hepatitis B are similar to those of Hepatitis A, but much more severe. The disease can be fatal.

Treatment:

Once you have Hepatitis B, there is no actual cure. Rest and nursing care under medical supervision is essential until the symptoms disappear.

The patient should be kept in a single room, and should not be allowed to handle food.

Prevention:

- a) Care with blood. Get as little blood on your hands as possible. Unless there is life-threatening bleeding, DO NOT put your hand directly on a wound but wear disposable examination gloves. Wash any blood off your hands as soon as you leave the casualty. Dispose of all blood-stained material properly.
- b) Immunization is available for people especially liable to come in close contact with the blood or body fluids of Hepatitis B sufferers — dentists, nursing staff, doctors, first aiders, laboratory technicians.
- c) There is an injection available which may prevent Hepatitis B from developing; the injection must be given within 5 days of contact with a known Hepatitis B sufferer.

If you are in any doubt, see your own doctor.

4. A.I.D.S. — Acquired Immune Deficiency Syndrome.

AIDS is caused by the Human Immuno-Deficiency Virus (HIV). This virus changes the genetic structure of the cell it attacks making the cell incapable of functioning normally. Once the virus has entered the bloodstream the body begins to produce AIDS-specific antibodies which can be detected in the blood after 2-3 weeks.

AIDS has been reported among several groups of people:-

- a) Homosexual/Bisexual men.
- b) Intravenous drug users.
- c) Prostitutes.

- d) Blood transfusion recipients (since 1985 all blood donations have been screened for the AIDS virus).
- e) Haemophiliacs.
- f) Heterosexual contacts of the above groups.

Transmission

- a) Sexual activity involving exchange of bodily fluids.
- b) Sharing contaminated needles.
- c) Transfusion of infected blood or blood products.
- d) Accidental needle stick injuries and where the contaminated fluid comes into contact with broken skin of the handler.

AIDS is NOT TRANSMITTED through:-

Sweat
Casual contact
Air
Insect bites.

The AIDS virus has been found in saliva but the disease has not been spread by contact with contaminated saliva. The St John member should take the same precautions with saliva that are taken with blood.

Prevention

The same precautions need to be taken for AIDS as for Hepatitis B.

If a St John member suspects that contact has been made with the AIDS virus, the member should have blood taken as soon after the event as possible, then again 2-3 weeks later to determine whether AIDS antibodies are being produced. If after 6 months there are no antibodies in the blood then the disease has not been contracted.

Most cases of health workers being infected with the AIDS virus have been due to *unfamiliar precautions* being taken with a *known* AIDS patient. It is, therefore, necessary to use the same precautions for ALL patients so that they become *familiar* and accidents less likely to happen.

PREVENTION IS ALWAYS BETTER THAN CURE.

TREAT ALL BLOOD AS INFECTIOUS.

FACTS ABOUT BACTERIA

1. A single common bacterium measures about 1/25000 of an inch (or 1 thousandth of a millimetre.)
2. Almost 2500 different varieties of bacteria have been identified.
3. In favourable conditions, bacteria can divide every 20 to 30 minutes.
4. In 15 hours, one bacterium can give rise to 1,000,000 descendants.
5. The most lethal bacteria are capable of an effect 700,000 times more powerful than strychnine.
6. Bacteria are responsible for numerous diseases including meningitis, pneumonia, diphtheria, tuberculosis, tetanus, typhoid and syphilis.
7. Without the action of bacteria, dead plants and animals would not decay and the chemical cycle of life could not continue.

- Some bacteria form spores, e.g. tetanus bacillus, which are very difficult to destroy. These spores can survive in harsh conditions for years.

FACTS ABOUT VIRUSES

- A virus is smaller than a bacterium.
- A virus can only replicate within a living host cell.
- A virus controls the metabolic activity of the host cell causing virus replication.
- The host cell bursts, releasing countless viruses to invade yet more host cells.
- Viruses may produce toxins.
- Viruses are responsible for the common cold, chickenpox, hepatitis A and B, measles, mumps, rubella, AIDS, some types of pneumonia and, commonly, different varieties of diarrhoea.
- Viruses are able to change their individual characteristics so they are able to grow and propagate while adjusting to new environments.
- Chemical treatment is therefore difficult since the virus changes and becomes resistant to the treatment.

RECOMMENDED IMMUNIZATION SCHEDULE

| AGE | DISEASE | AGENT | ROUTE |
|--------------------------|--|---|------------|
| 2 months | Diphtheria, Tetanus, Whooping cough (D.T.W.) | Triple Antigen (T/A) | Injection |
| | Poliomyelitis | Sabin Vaccine | Oral Drops |
| 4 months | Diphtheria, Tetanus, Whooping cough (D.T.W.) | T/A | Injection |
| | Poliomyelitis | Sabin Vaccine | Oral Drops |
| 6 months | D.T.W. | T/A | Injection |
| | Poliomyelitis | Sabin Vaccine | Oral Drops |
| 12 months | Mumps, Measles & Rubella | Mumps, Measles & Rubella vaccine | Injection |
| 18 months | Diphtheria-Tetanus | Combined Diphtheria & Tetanus (C.D.T.) | Injection |
| 5 years | Diphtheria-Tetanus | C.D.T. | Injection |
| | Poliomyelitis | Sabin Vaccine | Drops |
| 10-14 years (Females) | Rubella (German Measles) | Rubella Vaccine | Injection |
| 15 years | Tuberculosis | BCG Vaccine | Injection |

A SUMMARY OF SOME SELECTED COMMUNICABLE DISEASES

| INCUBATION PERIOD | DISEASE | SYMPTOMS | DURATION OF INFECTION | TREATMENT | COMPLICATIONS |
|---------------------|---|--|---|---|--|
| SHORT PERIOD | Influenza | Fever Sore throat and dry cough, husky voice Tiredness Loss of interest | Variable with each epidemic | Rest in bed. Copious fluids. Light diet. Limit talking | Pneumonia |
| | Diphtheria | Fever. Localised throat infection. White patch on side(s) of throat. Swollen nodes (glands). Difficulty in swallowing. Vomiting | Four weeks approximately | Rest in bed Anti-toxin | Toxic effect on heart muscles and nerves |
| | Infectious Diarrhoea | Abdominal pain Frequent loose bowel actions Vomiting | Variable, depending on seriousness of condition | Boiled water with a pinch of salt Semi-solid food — no solid food for twenty-four hours | Dehydration if fluid intake insufficient |
| | Scarlet Fever | Sudden symptoms of fever, chilliness, headache A sore, reddened throat and tongue Nausea and vomiting | Approximately ten days in uncomplicated cases | Rest in bed. Antibiotics. Pain reliever. Semi-solid food until throat improves | Otitis media (infection of middle ear) Kidney infection around third week |
| | Measles (1) | Severe cold with a harsh cough Sore 'watery' eyes Rash inside mouth, on face and then rest of body (red and patchy) | Approximately four weeks | Rest in bed while fever lasts Shaded light in room Copious liquids | Bronchitis pneumonia conjunctivitis Ear and sinus infection Small bowel infection Inflamed brain tissue |
| INTERMEDIATE PERIOD | Whooping Cough | Infection in upper breathing passages Has the appearance of a severe cold, coughing in bursts. Blue tinge of skin — vomiting may occur | Four to six weeks from beginning of whoop | Rest in bed while feverish Avoid dust, smoke and excitement Fluids and bland foods | Bronchiopneumonia Lung collapse |
| | Poliomyelitis | Headache, fever, general tiredness, stiffness of neck and back | Usually up to six weeks, but variable | Rest in bed in isolation. Observe for throat infections Avoid fatigue and discharges from throat and bowel Physiotherapy — later | Respiratory infections Muscular weakness |
| | Gonorrhoea (earlier in men) (longer in females) | Burning pain on passing urine Discharge from urethra, mucus at first, later pus | Several weeks | Penicillin injections | Inflammation of urethra and reproductive organs |
| | Measles (2) Rubella (German measles) | Small (pinhead) size rash over the body Enlarged and tender nodes (glands) at back of head and neck — fatigue | One week before and up to four days after rash disappears | If feverish, rest in bed Plenty of fluids | Rare, unless in the case of a pregnant woman when the developing infant can be affected |
| | Chickenpox | A small red and itchy rash on body, face and the body limbs, which turn to yellow blisters and then break Headache, cough | Until after rash has dried, formed scales and dropped off | Bed rest Calomine lotion to relieve itch Cotton mittens to limit scratching in children | Pneumonitis after severe attacks — cough, difficulty in breathing after a severe condition |
| | Mumps | Fever, a sudden onset with swelling of salivary glands in front of and below the ear on one or both sides | Seven days after swelling subsides | Nurse in room alone should doctor order this Hand washing essential after handling any article of the patient as infection is by direct contact and droplet infection | Rare, occasional inflammation of reproductive organs |
| | Infectious (Virus A) Hepatitis | Jaundice of skin and whites of eyes Dark, tea coloured urine — pale faeces Fever, lack of appetite Nausea, tiredness | Variable, depending on severity of condition | One hours rest after each meal, otherwise strict bed rest is not essential. Diagnosis may require a short stay in hospital. Restricted physical activity. A high calorie balanced diet. A good standard of personal hygiene | Chance of a re-occurrence at a later date |
| | Serum (Virus B) Hepatitis | As above, but is often acute at start Upper abdominal discomfort, loss of appetite Nausea and vomiting | May re-occur after weeks or months | Similar to above | Serious liver damage |
| | Syphilis | Ulceration at site of transfer of condition e.g. vulva, penis, lips, tongue, hands, rectum, nipples | May be months or years | Special treatment in clinics for this purpose | Many other organs of the body can be affected in a serious manner, e.g. heart and blood vessels |

NOTE: INCUBATION PERIOD — The time between coming in contact with the disease and symptoms appearing.

QUESTIONS:

1. How are infectious diseases spread?
2. How can you prevent the spread of infection?
3. What precautions are necessary when you are nursing an infectious person at home?
4. A person comes into the First Aid room with a large laceration to the forearm. The wound is bleeding freely. What will you do?

After you have begun treatment the casualty tells you that he has Serum Hepatitis. What, if anything, will you need to do?

5. A mother comes into your First Aid post with her young child who has cut his foot on a piece of broken glass. The child is two years old. After you have treated the child the mother asks you if the child requires a tetanus injection. What will you need to ask the mother and what would you suggest she do?

MODULE 10

WOUNDS AND DRESSINGS

PRESCRIBED REFERENCE:

Australian First Aid — St John Ambulance Australia 1989.

Care of the Sick in the Home — St John Ambulance Australia 1981 (CSH)

Supplementary Training Material.

OBJECTIVES:

Having studied the relevant pages of the reference material and completed the Training Sessions, the St John member will be able to:

- 3.1 State the purpose of a dressing.
- 3.2 Demonstrate a simple dressing technique using the wounds and dressings checklist.
- 3.3 Demonstrate the application of bandages as listed on the wounds and dressing checklist.

CHECKLIST WOUNDS AND DRESSINGS

| DESCRIPTION/PROCEDURE | COMMENT | SATISFACTORY | |
|---|---------|--------------|------|
| | | SIGNATURE | DATE |
| SIMPLE DRESSING TO LEFT FOREARM Prepare casualty CSH p85 | | | |
| Prepare equipment CSH p85 | | | |
| Wash hands CSH p85 | | | |
| Swab wound from top to bottom CSH p85 Fig. 1 | | | |
| Use each swab for one wipe, then discard CSH p85 Fig. 2 | | | |
| Dry with gauze squares | | | |
| Cover with clean dressing CSH p85 | | | |
| Roller bandage to retain dressing simple spiral CSH p69 | | | |

| DESCRIPTION/PROCEDURE | COMMENT | SATISFACTORY | |
|---|---------|--------------|------|
| | | SIGNATURE | DATE |
| Put arm in St. John sling | | | |
| BANDAGING ROLLER Apply figure of eight to: — elbow CSH p70 | | | |
| — heel CSH p70 | | | |
| APPLY A SPICA TO: — thumb CSH p71 | | | |
| TRIANGULAR — collar and cuff sling | | | |
| TRIANGULAR BANDAGE TO RETAIN A DRESSING TO: — scalp | | | |
| — knee | | | |
| — hand | | | |

OVERALL ASSESSMENT: Mastered / Not mastered

Date:.....

CLEAN A WOUND:

INTRODUCTION:

Use technique below, by making with lipstick a simulated wound on the back of the patient's hand.

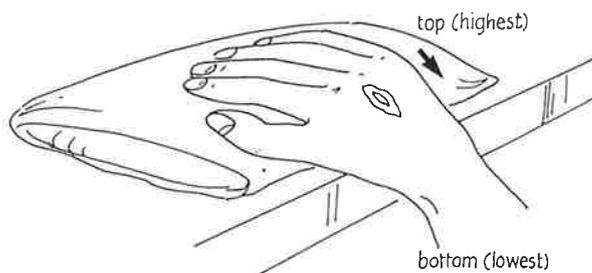


Fig.20 Cleaning the Wound

CLEANING THE WOUND

Swab from higher area of wound to the lower.

This ensures that any discharge from the wound or swabbing liquid will flow away from the wound.

SWABBING PROCEDURE

1st Swab

- make one continuous wipe.
- from top to bottom of wound.
- on one side of wound.
- discard swab.

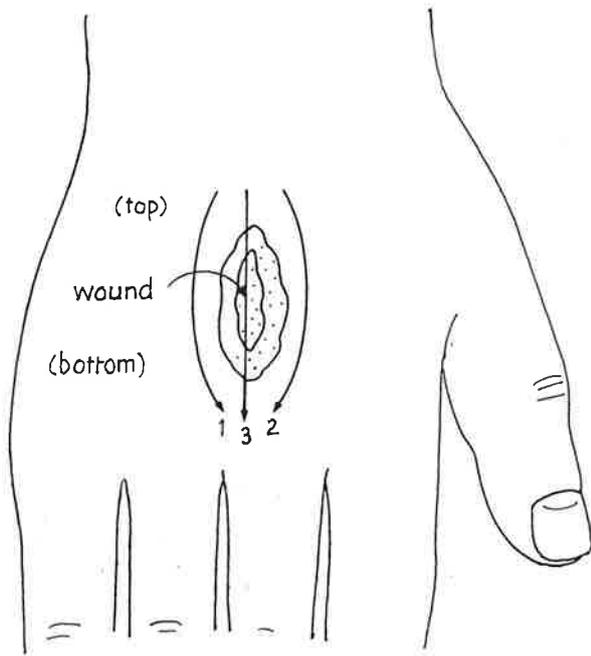


Fig. 21 Swabbing Procedure

Practical Skill mastered

Signed:

Date:

2nd Swab

- e. swab opposite side of wound.
- f. procedure as for a. to d.

3rd (& subsequent swabs)

- g. swab wound as for a. to d.
- h. continue until whole swabbed.
- i. discard swab after each wipe.

DRYING WOUND

- j. use dry gauze.
- k. follow procedure as for swabbing a. to d.

MODULE 11

ADMINISTRATION OF MEDICINES

PRESCRIBED REFERENCES:

Australian First Aid — St John Ambulance Australia 1989

Care of the Sick in the Home — St John Ambulance Australia 5th Edition 1981

Supplementary Training Material.

OBJECTIVES:

Having studied the appropriate texts and discussed the topic with others, the St John member will be able to:-

- 5.1 State in what form medicines can be administered.
- 5.2 State the general rules for care and storage of medicines in the home.
- 5.3 State the "Five Rights" in giving medicines.
- 5.4 State how to check labels to prevent mistakes in giving medicines.
- 5.5 State the times you would give a mixture ordered to be given:
 - 4 hourly;
 - 6 hourly;
 - 8 hourly;
 - before a meal;
 - after a meal.
- 5.6 State the drugs in the basic First Aid kit and the Do's and Don'ts associated with their use.
- 5.7 Complete a practical checklist on:
 - Giving tablets by mouth.
 - Giving medicine by mouth.
 - Instillation of eye drops.

INTRODUCTION:

Drugs are substances used in the preparation of Medicines and are obtained from:-

- | | |
|--|---|
| a. Vegetable World | e.g. Digitalis from foxglove leaves and morphia from opium poppy. |
| b. Mineral World | e.g. Extract of various minerals such as iron tablets. |
| c. Chemical Laboratory (where drugs are manufactured) | e.g. Aspirin. |
| d. Bacteriological Laboratory | e.g. Anti-toxic sera and vaccines etc. |

STANDARDISATION:

Drugs must be standardised before they can be used, and so a definite amount of the drug must be in a solution or a tablet. The British Pharmacopoeia is the standard used in this country.

PRESCRIBING OF DRUGS:

Drugs are prescribed by doctors and dispensed by pharmacists. The only drugs St John members are allowed to give are:

- In the First Aid situation
 - Those on the F.A. kit list (approved by the District Surgeon).
 - Casualty's own tablets, prescribed by his own doctor which he has with him, with his name on the container.
- In the Patient Care Situation
 - All drugs prescribed by the patient's doctor for his illness.

NOTE: Many drugs can be bought over the counter for one's personal use, but these cannot be dispensed by the First Aider to other casualties.

THE "FIVE RIGHTS" WHEN GIVING ANY MEDICATION:

There are "FIVE RIGHTS" to remember when GIVING MEDICATION.

1. Give the RIGHT MEDICINE.
2. To the RIGHT PERSON.
3. At the RIGHT TIME.
4. In the RIGHT AMOUNT.
5. In the RIGHT MANNER.

* * BEFORE GIVING or TAKING ANY MEDICINE, READ THE LABEL.

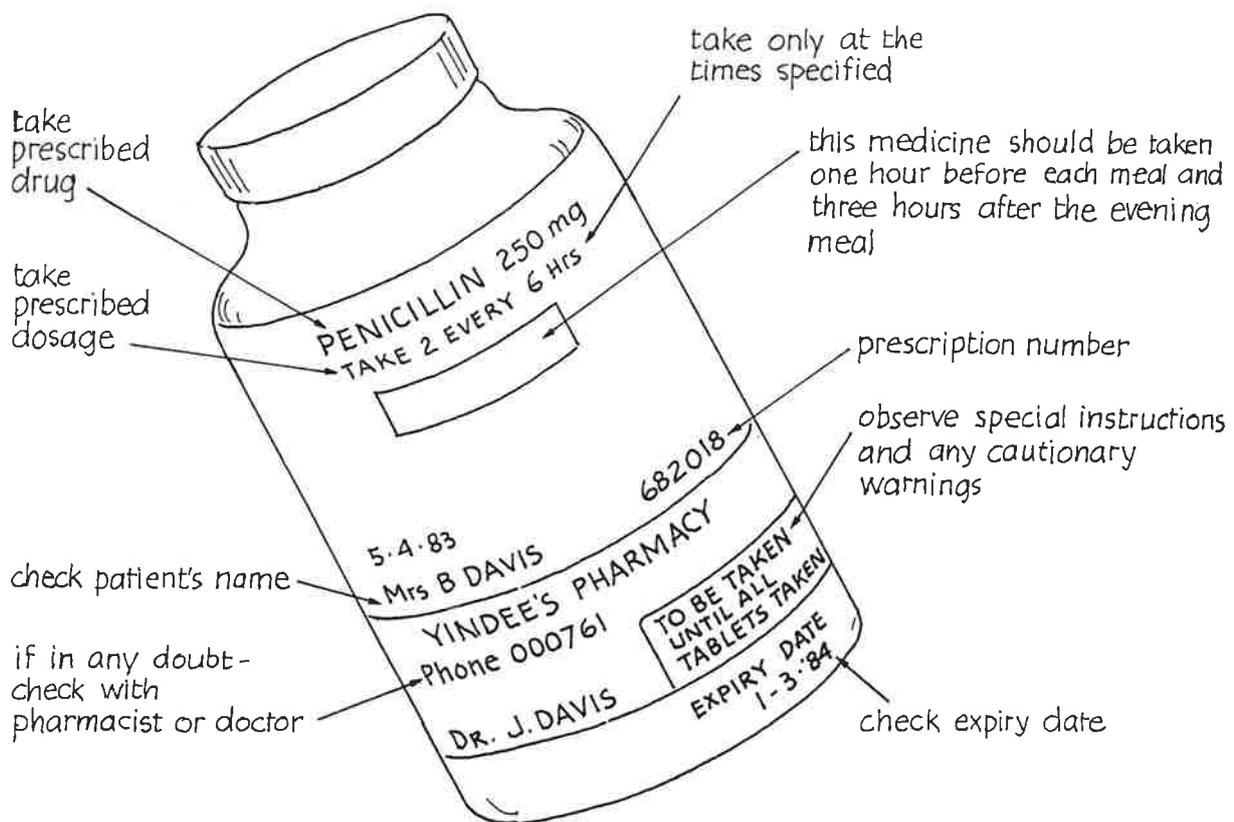


Fig.22 When Giving Medication

The Pharmacist on dispensing the medication will label the container clearly to State Regulations. The label will show:-

- a. Name of Medicine.
- b. Dose and directions for use.
- c. Patient's Name.
- d. Date.
- e. Prescription Number.
- f. Special directions.
- g. Doctor's name.

SOME EXAMPLES OF SPECIAL INSTRUCTIONS/WARNINGS

| | |
|---|---|
| Avoid taking Alcohol with this medication unless advised by the prescriber. | To be taken immediately after food. |
| Do not take this medicine with milk, antacids or preparations containing iron. | Discard days after opening DATE OPENED —/...../..... |
| To be taken half an hour before food. | This medication may cause drowsiness. If affected do not drive a vehicle or operate machinery. AVOID ALCOHOL |
| Avoid exposure to direct sunlight during the course of treatment with this preparation. | |

DRUGS ALLOWED TO BE GIVEN AT FIRST AID DUTIES:

| | | | | |
|---|-------|---|-------|--|
| ASPIRIN | ————> | Pain | ————> | Cannot be given to people: |
| (check expiry dates on your Aspirin and Paracetamol) | | | | — who are allergic to Aspirin; |
| | | | | — with ulcers; |
| | | | | — with bleeding problems; |
| | | | | — on anticoagulans; |
| | | | | — with asthma; |
| | | | | — with injuries. |
| Not used in First Aid Rooms or on duties because of the risk of bleeding. | | | ** | Can be given to a patient if ordered by his doctor. |
| REYE'S SYNDROME | — | The Commonwealth Department of Health has warned that children with a fever should not be given Aspirin because of increasing evidence of a possible connection between Aspirin and this rare illness which can lead to brain damage and death in children and adolescents. | | |
| PARACETAMOL | ————> | Pain | ————> | Remember danger to small children (Log 1982). |
| EYE STREAM | ————> | Eye Injuries | — | Lasts 2 years if unopened and stored in a dark cool place. Once opened it lasts 4 weeks if kept in refrigerator. |
| (write date on bottle when breaking seal) | | | | |
| SINGLE USE SACHETS | — | Single use only | — | Discard after opening. |

ANGININE TABLETS — Angina —→ Place tablet beneath the tongue
(Patient's own tablets) Chest Pain or in the cheek and allow to
dissolve.
(It should not be swallowed).

Take one tablet and if necessary one ten minutes later and rest in chair. *If chest pain has not gone in 15 minutes, seek Medical Aid.*

Tablet Information:

- Don't carry close to the body.
- Don't leave in direct sunlight.
- Shelf life unopened in dark cool place is 2 years.
- Once opened it lasts for 3 months only. Dispose of unused opened tablets after 3 months.
- Don't carry about in containers other than the manufacturer's.
- Make sure top is firmly on container.

GIVING OF TABLETS IN A FIRST AID SITUATION:

1. Check complaint — Headache
(trauma
(did not lose consciousness)
2. Check history — no medical history of headaches or other reasons paracetamol can't be given.
— been sitting in the sun for too long.
— No allergies
3. Check previous medication — Took 2 Disprin tablets 5 hours ago.
4. Record — Paracetamol tablets . . . given at 10.40 a.m.

GIVING OF TABLETS IN A NURSING CARE SITUATION:

Check "FIVE RIGHTS".

Check if casualty has an allergy to these tablets or any other tablets.

Check if casualty has ever had this drug before.

Check if any side effects to these tablets e.g.

- nausea
- drowsiness
- diarrhoea

Check any special precautions that go with these tablets e.g.

- not to be taken with alcohol;
- not to be taken when driving.

Check drug interaction.

- The action of many drugs can be changed (either an increased or decreased action) when taken with other drugs.

Check other interactions.

- Not to be taken with an antacid e.g. Tetracycline (antibiotic is impaired if taken with an antacid.)
- Not to be taken with food or milk.

Check times to be given.

- Are they to be woken up for 12 midnight dose?

Record.

Check for any side effects.

- If present — record
- notify doctor re further instructions.

EXAMPLES

- breathing difficulties, increased or decreased.
- nausea, vomiting, diarrhoea
- pulse rate
- rashes
- drowsiness

Check how long drug is to be continued.

- * * Do not use other persons' drugs.

CHECKLIST: GIVING A TABLET BY MOUTH

SATISFACTORY

| | TICK | DATE |
|---|------|------|
| 1. Tell casualty what you are going to do. | | |
| 2. Wash hands. | | |
| 3. Select correct tablets. | | |
| 4. Check time of last dose. | | |
| 5. Check for allergies. | | |
| 6. Check "FIVE RIGHTS". | | |
| 7. Undo bottle and shake 2 tablets into a spoon. | | |
| OR in top of bottle | | |
| OR undo foil so casualty can take out tablets | | |
| 8. Cap and replace bottle | | |
| 9. Give to casualty with a glass of water (unless otherwise stated). | | |
| OR dissolve in water if necessary. | | |
| 10. Watch casualty take it. | | |
| 11. Record on history/record book. | | |
| 12. Observe patient for any reactions. | | |

CHECKLIST: GIVING A MIXTURE BY MOUTH

SATISFACTORY

| | TICK | DATE |
|--|------|------|
| 1. Tell casualty what you are going to do. | | |
| 2. Wash hands. | | |
| 3. Select correct medicine. | | |
| 4. Check time of last dose. | | |
| 5. Check re allergies. | | |
| 6. Check "FIVE RIGHTS". | | |
| 7. Agitate bottle to mix liquid. | | |
| 8. Hold bottle, label uppermost in palm. | | |
| 9. Keep top in your fingers. | | |
| 10. Hold medicine measure at eye level. | | |
| 11. Put thumb on dose line. | | |
| 12. Pour correct dose. | | |
| 13. Cap and replace bottle. | | |
| 14. Give to casualty with a glass of water (unless otherwise stated). | | |
| 15. Watch casualty take it. | | |
| 16. Record on history/record book. | | |
| 17. Observe casualty for any reaction. | | |

INSTILLATION OF EYE DROPS:

SEE MODULE 7

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**CONFIRMATION OF COMPLETION OF
SKILLS MAINTENANCE AND
RE-EXAMINATION PROGRAMME
1990**

Name
(Please print)

Division

Date joined St John

Member to sign when programme completed
Date

The above member has completed the programme to my satisfaction:

Signed
Person responsible for training

Signed
Divisional Superintendent) Delete
Corps Superintendent) as
Officer in Charge) appropriate

To be completed on annual re-examination night:

The above member has completed the programme to my satisfaction and attended the re-examination night:

Signed
(Dr.)
Corps Surgeon
(Please print name)

Superintendent:

Please forward this page *ONLY* to the District Surgeon.

District Surgeon
1990 Training Programme
St John Headquarters
(In your State)