St John
Ambulance
Australia

Skills Maintenance Programme

1994

QUESTIONNAIRE

ADULT FIRST AID COMPETITIONS

We need your views on the advantages and benefits of, as well as the disadvantages and problems created by, First Aid Competitions to you, your Division, Corps and District.
Please answer the questions below:

1. Personal Data

(a) District (e.g. Tasmania).....

(b) Sex (male or female).....

(c) Age (years).....(d) Years in St John.....

2. *For the statements below, give your response by circling one of the numbers from 1 to 5. Circling a '1' indicates that you strongly disagree with the statement while a '5' indicates that you strongly agree with the statement; a '2' indicates disagreement and a '4' agreement with lesser conviction; and a '3' indicates that you neither agree nor disagree.*

(a) Competitions improve our efficiency in First Aid and Family Care in the Home.
Strongly disagree 1 2 3 4 5 Strongly agree

(b) The 'make believe' of competitions deters people from entering.
Strongly disagree 1 2 3 4 5 Strongly agree

(c) Training for competitions benefits my Division.
Strongly disagree 1 2 3 4 5 Strongly agree

(d) The rivalry of competitions deters people from entering.
Strongly disagree 1 2 3 4 5 Strongly agree

(e) Competitions interfere with the completion of the Skills Maintenance Programme.
Strongly disagree 1 2 3 4 5 Strongly agree

(f) Good competitors are good first aiders.
Strongly disagree 1 2 3 4 5 Strongly agree

(g) Competitions should continue in their present form.
Strongly disagree 1 2 3 4 5 Strongly agree

3. *Please answer the questions below and comment where appropriate:*

(a) Have you ever competed in First Aid Competitions? Yes ❒ No ❒
If so,
why?.....
If not,
why
not?.....

(b) Should competitions continue in their present form? Yes ❒ No ❒

If not, what format would you suggest.....

.....

(c) What do you feel are the advantages of competitions?

Comment.....

.....

(d) What do you feel are the disadvantages of competitions?

Comment.....

.....

(e) How can St John improve participation in its competitions?

Comment.....

.....

(f) How can competitions be made more relevant to first aid duties?

Comment.....

.....

(g) How should members selected to represent their District be funded to attend the National Adult First Aid Competitions held at Priory Conference each year in June?

Comment.....

.....

Please feel free to express your views and attitudes. We need your help in planning for the future. Please add extra pages if needed to adequately express your views.

Any other
comments.....

.....

.....

.....

Please return the completed questionnaire by **Monday, 16 May 1994** to:

Assistant Secretary (Operations)
St John Ambulance Australia
P O Box 3275
MANUKA ACT 2603

You may send your response individually or the responses of a Division may be sent collectively. Thank you for your assistance.

J. Fred Leditschke

J. Fred Leditschke
CHIEF SURGEON

St John Ambulance Australia

OPERATIONS BRANCH

Skills Maintenance Programme 1994

Name.....

Signature.....

Division.....

Date.....

St John Ambulance Australia
Canberra Avenue
Forrest ACT 2603

Editor: Barry Price.
Production management: Terrence E Jeff.
Typesetting: Alan Stimson Printing Services Pty Limited.
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Contents

Note:

'A.F.A.' refers to *Australian First Aid.* Volumes One and Two, 1989 (or combined volume, 1993).
'A.R.C.' refers to the Australian Resuscitation Council *Policy Statements.*

Welcome to Skills Maintenance Programme 1994

Greetings and welcome to the Skills Maintenance Programme for 1994.
A minimum requirement for a member to qualify for efficiency is to successfully complete the Skills Maintenance Programme. It is important that a member's records are correctly completed so as to avoid any problems at a later date, particularly in relation to service credit towards the Service Medal of the Order. Should a District decide to impose an annual re-examination on members, in addition to the Skills Maintenance Programme, such a re-examination must be considered to be a requirement of a higher standard and, as such, cannot affect the efficiency of members who have successfully completed the Skills Maintenance Programme (Chief Commissioner's Order 3/93).

The Skills Maintenance Programme was commenced approximately fifteen years ago in Victoria. In 1986 the Programme was accepted at national level.

The Training Committee is headed by Barbara Davis, Chief Nursing Officer. They are responsible for writing the modules or approaching people to write modules for each year. The draft modules are circulated to the District Surgeon in each State and Territory to be read, corrected and returned by a deadline to the committee. The appropriate corrections are made to the original draft before the final copy is typed at National Headquarters under the guidance of Barry Price, Assistant Secretary, Operations Branch. The aim is to have the Skills Maintenance Programme printed by the end of November. This enables Districts and Divisions to plan their programmes for the following year.

The Skills Maintenance Programme covers more information than that available in *Australian First Aid*, Volumes One and Two. Other items include history of the Order, knowledge of the General Regulations and first aid skills approved by the Australian Resuscitation Council, e.g. lateral chest thrust for the non-breathing patient with a foreign body obstructing the airway.

In most States and Territories, the completion of the Skills Maintenance Programme for three successive years will enable the member to be issued or re-issued with a Training Branch Advanced Certificate (incorporating the former Medallion Certificate). Other members will have obtained a similar level of training or an Advanced Certificate by attending a Training Branch course or courses run by their District before the three years have elapsed.

It is vital that members and instructors ensure that the knowledge for each module has been obtained and that the skills can be competently carried out, before any module is signed off as completed. Remember that an instructor who falsely signs and certifies that a member is proficient in a skill would be in a very doubtful position in the event of litigation and also puts the public at risk.

To reduce the risk of litigation and of a member being sued, not only must members keep within our training manuals and protocols, but also only deliver first aid to the level of their current certification. It is important that Casualty Report forms OB11 and OB12 are accurately completed. The top copy must be clearly written, outlining the history and examination of the casualty, the treatment given and the recommendations made, before being handed to the casualty or those caring for the casualty. The middle copy is kept by the Division or District. The third or member's copy should be filed carefully.

Our delivery of safe, competent first aid is the reason for our existence. Quality rather than quantity will provide all of us with an organisation of which we are proud to be members.

Cheers for now.

Dr J. Fred Leditschke
Chief Surgeon

National Skills Maintenance Programme Training Committee Members

Barbara Davis R.N.	Chief Nursing Officer
Mr Wayne Deakes	Corps Officer
Diana de Silva R.N.	Divisional Superintendent
Dr Nadine Fisher	Corps Surgeon
Mr James Huntley	Operations Branch Member
Mr Gavan Keane	Divisional Ambulance Officer
Andrew McMaster R.N.	Corps Nursing Officer
Correne Wassertheil R.N.	District Nursing Officer
Dr Jeff Wassertheil	District Surgeon

The assistance of material written in 1982 by John Fahey in the preparation of Module 7 of *Skills Maintenance Programme 1993* is acknowledged.

Procedure

A. St John Members

1. Each member, on receiving his/her own copy of the Programme, should sign and date the title page.

2. The Programme is divided into modules, with theory and practical skills components.

3. All the skills must be practised and, when mastery is obtained, be signed by the appropriate person as indicated.

4. Members who hold an Advanced Resuscitation Certificate, issued by their State/Territory, must sit the re-examination of that State/Territory every year to retain this qualification.

B. Officers/Training Personnel

1. Unless exempted under the General Regulations, all officers/members of Operations Branch shall complete the Skills Maintenance Programme to the standard prescribed.

2. The term 'training personnel' refers to all St John officers/members with a designated training function. If professional training personnel are unavailable within a division, then the officer-in-charge should communicate the name and qualifications 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 Training Branch accredited instructors 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 by one of the designated persons.

5. If, on conclusion of the 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.

6. On satisfactory completion of the module by the member, the programme is to be signed and dated in the space provided at the end of that module.

The Programme belongs to all officers and members of St John and its success depends on all working as a team. Your assistance and comments are always appreciated. Comments may be sent, in the first instance, to Assistant Secretary (Operations), St John Ambulance Australia, Box 3275, Manuka A.C.T. 2603. They will then be forwarded to the Training Committee.

Cardio-pulmonary Resuscitation

PRESCRIBED REFERENCES: *Australian First Aid.* Vol. 1 and 2, 1989, reprinted annually.
Australian Resuscitation Council *Policy Statements.*

OBJECTIVE: **1.1** 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 this skill to the section's practical incident.

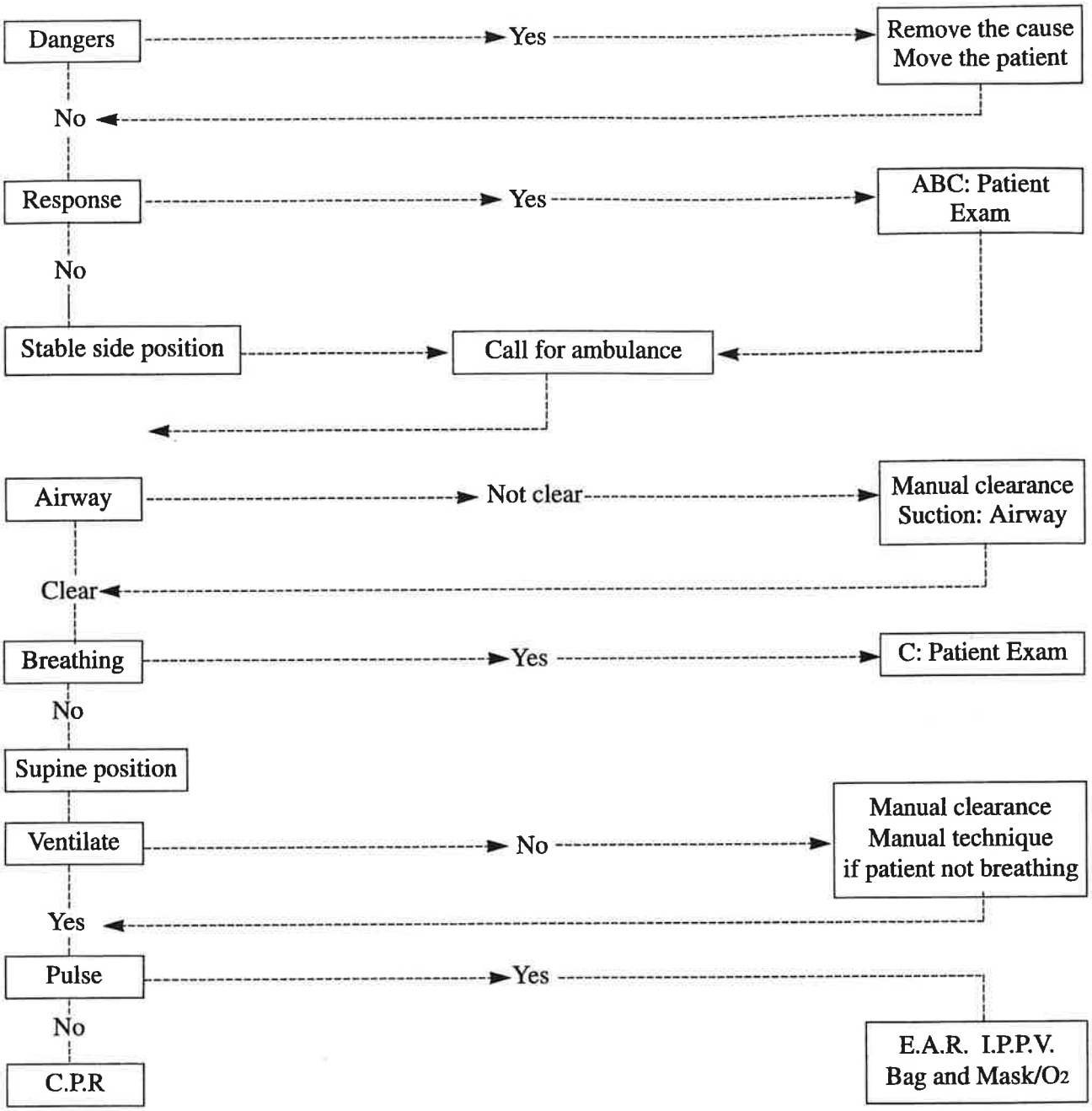
Practical Skills

Perform effective cardio-pulmonary resuscitation for an adult.

1.1 -1 person C.P.R.
1.2 -2 person C.P.R.

Practical Incident

You are on duty at your local football ground when you see one of the players fall to the ground, apparently unconscious. Examine and manage the casualty; then hand over to the arriving ambulance officer. Try to note the time the call was received, the time of arrival at the casualty, the time taken to assess the casualty, the time C.P.R. is commenced and the time of return of pulse and respiration. Complete a Casualty Report form OB12 for the incident and an Utstein Cardio-pulmonary Resuscitation research form (see later in this module).



E.A.R. = expired air resuscitation. I.P.P.V. = intermittent positive pressure ventilation.

Fig. 1 Casualty Treatment Sequence.

1.1 Cardio-pulmonary resuscitation checklist

Checklist	Tick	
	2 person rescue	1 person rescue
D.R.A.B.C. Check for **D**angers. Check **R**esponse. Turn casualty onto side. Call for help and ambulance. Clear **A**irway. Check **B**reathing (nil). Roll casualty onto back. Ventilate casualty - manikin must inflate. - watch the chest rise. 5 times over a period of 5-10 seconds.		
ONE OPERATOR C.P.R. Correct position of hands. Correct depth of compressions. Timing: number of breaths = 8/min. Check breathing after one minute (absent). Check **C**irculation after one minute (present).		
EXPIRED AIR RESUSCITATION Timing: 1 breath every 4-5 sec. = 12-15/min. Check breathing after two minutes (present). Check circulation after two minutes (present).		

Practical skill mastered

Signed:.....

Date:.....

Table 1 **RESUSCITATION RATES**

	ADULT 5 initial breaths	CHILD 5 initial breaths	INFANT 5 initial breaths
E.A.R.	1 inflation every 4 seconds 15 cycles/min.	1 inflation every 3 seconds 20 cycles/min.	1 inflation every 3 seconds 20 cycles/min.
COMPRESSION SITE	Lower half of STERNUM	Lower half of STERNUM	Lower half of STERNUM
HOW	2 hands	1 hand	2 fingers
DEPTH	4-5 cms (1.5-2 ins)	2.5 cms (1 inch)	1.5 cms (0.5 inch)
ONE OPERATOR	15 cardiac compressions to 2 breaths in 15 seconds; 4 cycles/min.	15 cardiac compressions to 2 breaths in 10 seconds; 6 cycles/min.	15 cardiac compressions to 2 breaths in 10 seconds; 6 cycles/min.
TWO OPERATORS	5 compressions to 1 breath in 4 seconds; 15 cycles/min.	5 compressions to 1 breath in 3 seconds 20 cycles/min.	
REVIVAL CHECKS	PULSE BREATHING 1 minute; every 2 minutes thereafter	PULSE BREATHING 1 minute; every 2 minutes thereafter	PULSE BREATHING 1 minute; every 2 minutes thereafter

National Headquarters

St John Ambulance Australia

Canberra Avenue
Canberra ACT
Telephone
(06) 295 3777
PO Box 3275
Manuka 2603

JFL:ljp

1 July 1993

Dear Operations Branch Member,

During 1994/95, would you please assist us in collecting information on casualties on whom you perform cardio pulmonary resuscitation. If you have given C.P.R. to a casualty, please forward a copy of the BF45 (OB12) completed for the casualty, as well as a copy of the "National Cardiac Arrest Data Collection - Utstein Style Performa" to me. To assist in completing this data collection form, one of the Skills Sheets for the 1994 Skills Maintenance Programme is to be completed as if the first aider had been involved with a casualty who had suffered a cardiac arrest. In completing the form, it is appreciated that the time at which events occur and the time between events is often not clearly documented, following the call that a person has collapsed and possibly suffered a cardiac arrest.

The Utstein Style refers to a method of reporting, designed to enable results from one centre or country to be compared to another. A meeting was held at historic Utstein Abbey, located on a small island near Stavanger, Norway, and attended by representatives of international resuscitation councils, to draw up guidelines for reporting. As a professional group delivering first aid to the public, this study during 1994/95, will tell us how frequently our skills are required. Cases will be followed up to see how successful we have been. I will make an application through the District Surgeons to the hospital to which the casualty was transported to obtain further information. The number who survive a cardiac arrest occurring out of hospital is not high, but it is only by collecting information on a national basis, that the expected 30 - 50 cardiac arrest persons that St John Ambulance Operations Branch treat annually, can be assessed and our results analysed. Your District Surgeon has a copy of the Recommended Utstein Guidelines which was published in the Annals of Emergency Medicine Volume 20, pages 861-874 in August 1991 should you wish to pursue the matter further.

Your help in this project is very much appreciated. I hope that the "Trial Run" as part of the 1994 Skills Maintenance Programme will assist you to note the time and accurately record when events occur to all casualties. I look forward to receiving the completed data forms and the completed OB12 (BF45) and please feel free to write to me if you have any concerns.

Yours sincerely,

J. Fred Leditschke

J. Fred Leditschke
CHIEF SURGEON

Fig. 2 Letter from Chief Surgeon

1.2 Filling in an Utstein Style form on cardiac arrest

In his letter the Chief Surgeon asks that you be prepared to assist in a research project related to cardiac arrest casualties. Consider the following practical incident:

You are on duty at Football Park when an elderly man is brought to the first aid room. You find on examination that he is short of breath and has severe chest pain. You give him two Anginine tablets under his tongue. He tells you that he has had recent heart surgery.

Examples of how you could fill out an Utstein Style form and a Casualty Report form OB12 are given in this module. Now make up your own scenario concerning a cardiac arrest casualty. Use the first of the Utstein Style forms on the coloured paper in the middle of this book. You may wish to photocopy it so that, for example, you can also complete it for the practical incident at the beginning of this module. But retain the second form in the middle of the book, in blank form, so that you can use it if you are involved with an actual cardiac arrest situation. Also fill out an OB12 form for your own scenario.

Practical skill mastered

Signed:.....

Date:.....

ST JOHN AMBULANCE AUSTRALIA
NATIONAL CARDIAC ARREST DATA COLLECTION - UTSTEIN STYLE

Division or District Duty..... DIVISION .....

Location of Duty..... FOOT BALL PARK ..... Location of Casualty Inside ☐ Outside ☑
Tick appropriate box

Date - Day - Month - Year..... SATURDAY 10 JULY 1993 .....

Weather at time..... COLD & WINDY .....

Age of Casualty..... 67 .....years	Accurate	☑	Guess	☐
Sex of Casualty	Male	☑	Female	☐
Pre-existing cardiac disorder (if known)	Yes	☑	No	☐
Drugs taken (e.g. Anginine)	Yes	☑	No	☐
Smoker	Yes	☑	No	☐
Alcoholic Odour	Yes	☐	No	☑

Pre-arrest symptom (e.g. chest pain, pallor)

.....

Witnessed cardiac arrest	Yes	☑	No	☐
Arrest after St John first aider arrived	Yes	☑	No	☐
Arrest after Ambulance arrived	Yes	☑	No	☐
Arrest after medical support arrived	Yes	☐	No	☑

CALL RESPONSE INTERVAL..... 5 .....minutes
(Period of time between receipt of call and arrival of St John first aider at casualty)

ASSESSMENT INTERVAL..... 25 MINUTES .....~~seconds~~
(Period from arrival of St John first aider till arrest assessed i.e. unresponsive, breathless, pulseless casualty)
Arrest occurred when Ambulance present and CPR commenced immediately at 1515

TYPE of expired air resuscitation e.g. mouth to mask.....
SOFT BAG RESUSCITATOR WITH OXYGEN

Time C.P.R. commenced..... 1519 .....hours and minutes (24 hour clock)

Time IF CIRCULATION restored..... — .....hours and minutes (24 hour clock)

Time IF BREATHING restored..... — .....hours and minutes (24 hour clock)

Time AMBULANCE CALLED..... 1457 .....hours and minutes (24 hour clock)

Time AMBULANCE ARRIVED..... 1512 .....hours and minutes (24 hour clock)

Time if C.P.R. ABANDONED..... 1535 .....hours and minutes (24 hour clock)

Time AMBULANCE DEPARTS WITH CASUALTY 1600 .....hours and minutes (24 hour clock)

Destination of Casualty (e.g. name of hospital)..... CITY MORGUE .....

Fig. 3 Utstein Style Form

Complete as accurately as information available permits

TYPE OF ARREST

1. PRESUMED CARDIAC
(e.g. coronary occlusion; myocardial infarcation; cardiac arrhythmia)..... Yes ☑ No ☐

2. NON-CARDIAC e.g. Sudden Infant Death Syndrome..... Yes ☐ No ☐

Drug overdose..... Yes ☐ No ☐

Suicide..... Yes ☐ No ☐

Drowning..... Yes ☐ No ☐

Severe Bleeding..... Yes ☐ No ☐

Or presumed cause

.....

.....

Comments by first aider or duty officer to cover items not covered above or on the previous page

PATIENT DISCHARGED FROM HOSPITAL 2 WEEK AGO AFTER A HEART ATTACK & OPEN HEART SURGERY, DEVELOPED SOME SLIGHT CHEST PAIN & TOOK 2 ANGININE, BUT BEFORE THE PAIN WENT AWAY, HE SUDDENLY FELT SHORT OF BREATH & THOUGHT HE WAS DROWNING FROM THE INSIDE.

Signature of person completing proforma..... J. Ross

Printed name of person completing proforma..... JOHN ROSS

Add names, addresses and phone numbers of contacts - to assist in following up the casualty

CORONER'S COURT, 3 SHORT STREET, CITY CENTRE 331111

Dr. P. PETERS, RIVERVIEW MEDICAL CENTRE

441111 (PATIENT'S DOCTOR)

.....

.....

Please return this form, together with a copy of the Casualty Report form OB12 completed for the casualty with the suspected or confirmed cardiac arrest, as soon as possible, to:

Dr J. Fred Leditschke
C/o Assistant Secretary (Operations)
St John Ambulance Australia
P.O. Box 3275,
MANUKA, ACT 2603

CASUALTY REPORT

St. John Ambulance Australia

LOCATION OF DUTY	TIME	DATE
FOOT BALL PARK	1455	10 JULY 1993

SURNAME OF CASUALTY	GIVEN NAMES	TITLE	D.O.B.	SEX
BLOW	Joe	Mr	AGE 67	M

ADDRESS OF CASUALTY	POSTCODE
12 SOUTH ST. BLOWSVILLE	9111

FIRST AID ASSESSMENT AND OBSERVATIONS

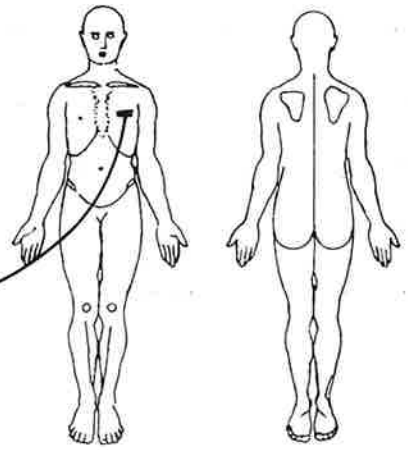
LEVEL OF CONSCIOUSNESS

TIME	FULLY CONSCIOUS	CONFUSED DROWSY	UNCONSCIOUS
1455	✓		
1510		✓	
1620			✓
1535		PRONOUNCE DEAD	

TIME	PULSE	RESP.	L PUPILS R
1455	90 WEAK	30 SHALLOW	• = •
1510	110 WEAK	40 SHALLOW	• = •
1520			● = ●
1535			● = ●

KEY TO CODING

A—ABRASION
B—BURN
C—CONTUSION
D—DISCOLOURATION
F—FRACTURE
H—HAEMORRHAGE
L—LACERATION
P—PAIN
R—RIGIDITY
S—SWELLING
T—TENDERNESS



COMPLAINTS/SYMPTOMS/HISTORY

- recent heart surgery
- felt short of breath like he was drowning
- some chest pain - took 2 Anginine under tongue

GENERAL OBSERVATIONS

- blue lips & face
- skin cold & clammy
- gasping for breath

FIRST AID MANAGEMENT

- loosen tight clothing
- oxygen via face mask at 8l/minute
- reassurance

Ambulance called 1457, arrived 1512; patient arrested at 1515 & CPR commenced by Ambulance officers; ceased at 1535

REFERRAL FOR MEDICAL ADVICE

TO CITY MORGUE

HOSPITAL (BY AMBULANCE) ☐ HOSPITAL (BY CAR) ☐ OWN DOCTOR ☐

SIGNATURE OF ST. JOHN MEMBER		DIVISION	DISTRICT
J. Ross	J. ROSS	NORTH-EAST	CENTRAL

White: to CASUALTY for DOCTOR Pink: to DIVISION Blue: Retained by MEMBER

Fig. 4 OB12 Casualty Report Form

Note: Members who hold an Advanced Resuscitation Certificate, issued by their State/Territory, must sit the re-examination of that State/Territory every year to retain this qualification.

Skills Mastered

	Satisfactory	Fail	Re-test
EXAMINER Please tick	❐	❐	❐

Please sign and print name:

Signed:.....Date...../...../1994.

Name:.....Position:.....

Qualification: (Please tick where appropriate)

Doctor.....Registered Nurse.....Ambulance Officer.....

Training Branch Accredited Instructor:.....

Operations Branch Member (approved by District Surgeon):.....

The Disturbed Patient: Psychiatric Emergencies

In the course of our first aid work we are frequently asked to attend to people who have sustained some type of physical injury. These are usually easy to identify and we are able to reach into our kits for a piece of equipment that will help to repair the damage. The patient will feel relieved, the bystanders are impressed and we are satisfied with a job well done.

There are patients, however, who present to us ill but in whom no physical abnormality can be found. Haemorrhage check, fracture check and observations are all 'normal'. There is no complaint of pain. There is no history of an accident. Yet this person says that he/she is not well. He/she looks distressed and acts oddly. He/she may talk gibberish but does not smell of alcohol. We can find no history of drug use.

This patient is experiencing some type of psychiatric or emotional event and as such will present the first aider with new challenges. A search of the first aid kit for some magical equipment will be fruitless. Bandages will not repair the broken mind nor replace that which is being grieved. The most useful tool that the first aider can employ in a psychiatric or emotional emergency is that of personal communication - but how?

Towards a Concept of Normal Mental Health

During our conventional first aid training, much time has been spent on learning about the 'normal' structure and function of the human body. Such exercises are essential for we cannot hope to understand illness and its effects without some grasp of how the body was designed to work in the first place. How do we apply this principle to the mind? What is normal health; conversely, what constitutes abnormal mental health?

This issue invokes many thoughts and prejudices concerning sanity and madness and has been the subject of wide academic debate for centuries. In the small space available in this text, let us at least examine a few concepts of 'normal' that may better equip us as first aiders to deal with those who present with a disturbance of the mind.

The essence of mental health is that the human mind is able to enjoy (or suffer) a range of emotional attributes that include:

- an ability to love and be loved;
- the power to embrace change and uncertainty;
- a suitable degree of spontaneity and range of emotional responses;
- efficient contact with reality;
- a rich fantasy world enabling creativity;
- a degree of self-knowledge;
- an insight to say "I am wrong";
- a willingness to say "You are wrong";
- a feeling of status and security within society;
- freedom of self expression;
- the ability to risk enchantment; and
- a sense of humour if these are not available.

Happiness need not be the sole ingredient of good mental health, as the merely happy are extremely vulnerable. All that is needed is for their happiness to be removed. The above are important as they are what a person needs should that misfortune befall him/her.

Most of a person's emotional attributes can be thought of as being on a continuum, with extremes at either end and a 'healthy' range in the middle:

Extreme Response	Healthy Response	Extreme Response
e.g. Depressed		Euphoric

A movement backwards and forwards through the continuum is usual, as are transitory periods at one extreme. For an individual to be locked in one extreme for long periods may not, however, be healthy by contemporary definition. For example, periods of extreme happiness or sadness are quite appropriate in all of us and are part of the normal human response to life's events. However, a prolonged period of either and their associated behaviours may signal a significant psychiatric problem in mania or depression requiring prompt treatment to protect the individual from harm.

Towards a Concept of Mental Illness

Whenever a person's thoughts, perceptions or feelings cause him/her some objective or subjective harm which is more than transitory, a mental illness may be said to be present. Often the harm is to society although this should not be our sole criterion for mental illness. Prisons contain people who have been harmful to society but who do not necessarily have a mental illness. Similarly, a person may have quite marked psychiatric symptoms but be of no harm to anyone, including himself/herself.

Psychiatry, like most areas of health care these days, has a language of its own. It is too easy to fall into a trap of 'labelling' people according to signs and symptoms. This tendency has little practical purpose in first aid and only serves to

direct our attention towards a 'diagnosis', rather than the person under our care. It may, however, be useful to consider these common psychiatric terms:

Neurosis: a form of mental illness characterised by anxiety without a distortion of reality. The anxiety may be expressed through strange behaviours such as frequent hand-washing or through avoidance and withdrawal as in agoraphobia, the fear of open spaces. There are many types of neuroses recognised by psychiatry and they are generally thought to evolve as a maladaptive response to some crisis earlier in the person's life.

Psychosis: a major mental illness characterised by a distortion in the person's sense of reality. Reality is, of course, difficult to define but suffice to say that most of us have developed the knack (or is it a trick?) of recognising reality. The psychosis may be demonstrated by the expression of illogical, false beliefs (delusions), non-existent stimuli such as voices (hallucinations) or odd ideas. One of the common psychotic illnesses is schizophrenia.

Depression: a mental state characterised by excessive sadness. We have all, at some time in our lives, experienced a period of sadness, sometimes lasting a considerable period. This contrasts with the picture of clinical depression where the person experiences a prolonged, morose illness which severely affects his/her ability to concentrate and go to school or work. They are not able to rescue themselves from their despair and often do not respond to the comfort of other humans. People with a major depression frequently withdraw, may not eat and suffer from their own neglect.

Patient Assessment

In assessing patients whom we suspect to be suffering from a psychiatric or emotional problem, we should ask ourselves a few pertinent questions:

1. What has brought them to my attention?
2. What do I know about them and what can I find out?
3. What is their level of distress?
4. Do they present as a harm to themselves, to others or to property?
5. What can I do to ease their distress and protect them from harm?
6. What assistance will I require?
7. Where will I send them and how?

In other words, having taken a history, made some observations and assessed other risk factors, how will I manage the patient and transfer him/her to appropriate care?

Management

In approaching the person with an emotional or psychiatric disturbance, it is perhaps useful to consider the old adage: "First do no harm!" The following points should be considered in managing this patient:

1. Approach the patient cautiously, being aware of dangers such as weapons.

2. Discreetly direct bystanders away.
3. Introduce yourself. Try to obtain the patient's name.
4. Provide the patient with gentle but firm reassurance. Allow him/her to express his/her emotions.
5. Neither agree nor disagree with the patient. Adopt an unbiased approach to the situation.
6. Be aware of your own body language. If you look fearful or defensive the patient will sense it and rapport may be lost.
7. Do not try to restrain the violent person unless it is absolutely necessary to ensure his/her (or others') safety and you have sufficient people to achieve this without causing harm. If in doubt, it is better to retreat and await expert assistance.

Transfer

The method of transfer will depend upon the individual circumstances present.

The severely disturbed or violent person requires urgent medical intervention and the ambulance should be called as a matter of priority. Police may be required to assist with violent people and the advice of the ambulance service should be sought here.

It may be that the person can be sent home or to his/her local doctor, in the care of a friend or relative who is familiar with his/her condition. When in doubt, call the ambulance service.

Grief and Loss

Grief is the human response to a major loss. We will all encounter grief in our lives, whether it be our own, our family's or that of a patient's relative or friend, and this is normal. Bereavement is the process of grief as applied to death - perhaps the most significant loss a human can experience. Mourning is, more or less, the formal process of bereavement and is influenced by cultural, social and religious frameworks.

The four tasks of mourning are:

1. To recognise and accept the reality of the loss.
2. To experience the feelings of grief.
3. To adjust to the many ways in which life has changed, is now different or is becoming different.
4. To integrate the loss into life as it is now and begin to move on.

In dealing with grief we should:

1. Provide the support, space and environment where the person can deal with his/her own issues.
2. Assist in the tasks of mourning (above).
3. Acknowledge what has been lost in all its aspects.
4. Facilitate the expression of feelings - however they may be expressed.

The chief skills required when dealing with loss are listening and time.

Be aware of your own feelings and experience in regard to grief and loss.

The other person's grief may be so great, the situation so sad, that the best you can hope for yourself is to just sit there and be with them.

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Acknowledgement

The notes on Grief and Loss were adapted from a workshop conducted by Ms Robin Jewell at the Summer School of Addiction Studies, Ballarat, Victoria, December 1992.

Sporting Injuries

OBJECTIVE: **3.1** On completion of the training period and after studying the material listed below, the St John member will be able to apply this knowledge and practical skill to the section's practical incident.

A. Endurance Sporting Events

The Physiology of Exercise

Any discussion of illness caused by or related to endurance sporting events requires an appreciation of the changes to body functions during exercise. Several factors need to be considered including:

1. body composition differences between male and female athletes;
2. muscular function;
3. energy and oxygen consumption;
4. respiratory system effects;
5. effect on heart performance and blood flow;
6. sweating and heat production.

Males and females

The same changes of body function apply equally for men and women. There are, however, differences in body size, composition and the presence of the male sex hormone, testosterone, that affect the quantity of performance. In women, measures of function related to muscle strength, cardiac output and respiration are approximately two-thirds to three-quarters those of men. However, the actual athletic performance is not affected to the same degree owing to the generally small body stature. Nonetheless, differences in athletic performance between men and women are related to sex hormone effects.

Testosterone is the male sex hormone produced in the testes. It increases protein deposition in the body tissues, especially in muscle. It also plays a role with the production of an aggressive attitude. Testosterone-like drugs are called anabolic steroids.

Oestrogen is the female sex hormone, produced mainly from the ovary, although some female sex hormone is produced in both males and females from the adrenal glands located just above the kidneys. The quality of its effect is much less than testosterone. Its main noticeable effect on body shape is the accumulation of fat in general throughout the whole of the body but more specifically the breasts, hips and beneath the skin.

At the onset of puberty, both males and females experience a growth spurt. In the female, this growth spurt is short-lived and the growing areas of long bones close some two or three years earlier than in the male counterpart. In general this results in a shorter stature.

The non-athletic female of normal weight for height has a fat content of approximately 26 per cent while the male counterpart is 45-50 per cent leaner with a fat content of approximately 15 per cent. The trained endurance athlete's fat content is about 6-8 per cent for females and 4 per cent for males.

Muscular performance

The five factors that dictate both quality and quantity of muscular performance are:

1. strength;
2. power;
3. endurance;
4. muscular length;
5. co-ordination.

Muscular strength is related to muscle size. The two main factors in increasing muscular size are the effect of testosterone as detailed above and an exercise training programme. Muscular size increases progressively with a graduated programme. The increased demand enhances the accumulation of protein within a muscle cell which is then converted into contractile tissue. The following lay person's description is relevant: "the flabby muscle is firstly toned, then gains bulk and definition."

Muscular power is the amount of work that a muscle can perform in a period of time. It is a physical function related to muscle strength, the speed of muscular contraction and the number of muscle contractions per minute. The explanation of how it is measured is beyond this discussion.

Muscle endurance is the length of time that an activity can be sustained. Although strength and power are important, it is related to the amount of energy that can be produced by the breakdown of glycogen stored within the muscle and the ongoing availability of nutrients.

Glycogen is the compound that glucose particles are converted into following absorption from the small intestine. It is present in both muscle and liver and is dependent on the action of insulin for its accumulation. Increased carbohydrate intake in the days before an athletic endurance event increases the body stores of glycogen. This is termed carbohydrate loading.

Nutrients - oxygen debt

Athletic activity can be performed by utilisation of glucose without oxygen. The length of time that this can be sustained is short as the waste products produced result in muscular fatigue once a build-up has occurred. Muscular function can occur with this process for up to say a 200-300 metre race. However, oxygen and nutrients will be needed for the recovery of the muscle and replacement of its energy stores.

Oxygen and glucose are the main energy-providing compounds for the maintenance of muscular performance in endurance events. Oxygen is required for the efficient breakdown of glucose in order to produce large quantities of adenosine tri-phosphate, the energy compound which initiates muscular contraction. The process is certainly more complex than that but for the purposes of this discussion suffices.

Oxygen is stored in the various areas of the body:

- approximately 300 mls is stored in muscles;
- a litre is attached to haemoglobin;
- 500 mls sits in the area of the lungs; and
- 250 mls is dissolved in the body fluids.

Most of this oxygen is used during exercise and needs to be replenished later.

Oxygen is also required to replenish the energy systems and deal with the waste products that are produced by muscular activity without oxygen at the initial commencement of athletic activity. The quantity of oxygen required at the conclusion of exercise is termed oxygen debt and is needed to replenish energy stores. It can be as much as 10-15 litres of oxygen (the oxygen content of 50-70 litres of air) and take up to two hours following strenuous activity.

The nutrients that are used as energy sources are:

1. glycogen which is stored in muscles and liver and is converted into glucose;
2. fat broken down into fatty acids and ketones and then used as substrates for energy production;
3. amino acids which are the components that form proteins.

In an appropriately prepared athlete, glycogen stores can last for about 4 hours; after that time glucose is obtained by absorption from the intestine. A glucose solution of approximately 2-2.5 per cent taken frequently during an endurance event can provide 30-40 per cent of the energy required for that event. After the first 4 hours, 50 per cent of the energy required can be obtained from fat.

Respiration

The normal oxygen gas requirement for an average person at rest is approximately 250 mls per minute. During exercise:

- -the untrained average male, for height and weight, utilises 3.6 litres per minute;
- -the trained male is able to utilise 4 litres; and
- -the trained endurance event athlete utilises 5.1 litres per minute.

The maximum volume of air that is breathed during exercise is approximately 100-110 litres per minute.

However, this is much less than the maximum breathing that the body can achieve which is 150-170 litres per minute. Therefore, it is not the respiratory system that limits the maximally achievable athletic performance.

Effects of smoking on lung function

Smoking is counter-productive. The nicotine contained in cigarette smoke has several effects which impair lung function:

1. It causes spasm and narrowing of the smaller airways, thus making it more difficult to move air in and out.
2. Nicotine produces increased secretion of mucus due to direct chemical irritation of the mucous membrane lining of the airways.
3. It creates inflammation of the airway linings, further narrowing them.
4. It impairs the activity of the small hair fibres of the larger airway cells (cilia) which form a microscopic carpet. Under normal circumstances these beat to produce a wave of activity, like a field of waving wheat, which moves dust particles and mucus towards the upper airway for elimination. We normally do not appreciate this function but in some instances, for example during a mild infection such as bronchitis, we are conscious of this action as we cough or clear our throat which is then followed by swallowing or expectoration (coughing up) of sputum (mucus).

Heart action and blood flow

Muscle blood flow is markedly increased during exercise. The normal blood flow is approximately 3.6 mls per 100 grams of muscle tissue. In strenuous activity it is increased to 90 mls per 100 grams of tissue, a 25 fold rise. Arterial blood pressure tends to rise by up to 30 per cent and contributes to increased muscle blood flow.

The heart normally pumps 5 to 5.5 litres of blood per minute in an average healthy adult male. During exercise, it rises to about 23 litres per minute. In the conditioned endurance event athlete, outputs of 30 litres per minute or six times the resting flow can be achieved.

Training and conditioning can increase heart chamber size and muscle mass by 40 per cent. In exercise, both rate and stroke volume - the volume ejected from the heart with each beat - is increased to 95 per cent of maximum function.

Exercise is the most strenuous activity that one can place on the heart.

Body heat, fluids and sal salt

Almost all of the energy released during the processing of the nutrients by various chemical reactions is converted into heat. Only 20-25 per cent of the total energy produced is utilised in muscular work. Oxygen consumption, as previously mentioned, can be increased 20 fold and the heat production is directly proportional to that oxygen consumption. One can then appreciate the quantity of heat that is produced in the body's tissues during endurance activity.

Sweating is the mechanism by which the body cools down. In a cool and dry environment with a breeze this is efficient. However, on a hot humid day, this mechanism becomes less efficient. Under these circumstances, the person may become heat affected or develop a heat exhaustion illness. Efficient sweating can result in a loss of 2-3 litres (1 litre = 1 kilogram weight) of fluid and thus body weight during each hour of an endurance event. A 3 per cent loss of body weight can decrease performance and a 10 per cent loss can lead to nausea, muscular cramps and other effects. As body temperature rises above a certain level, sweating ceases and body temperature continues to rise with the development of heat stroke.

The type of fluid replacement and its salt content has been clarified over the years. A relatively untrained competitor loses significant amounts of salt (sodium chloride) in sweat. The concentration of salt in sweat of the 'unacclimatised' person approaches two-fifths that of normal saline (normal saline is a solution of 9 grams of sodium chloride salt in a litre of water). In other words, two-fifths of this sweat loss is equivalent to this salt solution; the remaining three-fifths is water.

An athlete who is trained for endurance events becomes 'acclimatised' and the salt loss in sweat is one-sixth that of the unacclimatised athlete. Thus, fluid replacement of the relatively untrained competitor needs a quantity of sodium chloride whereas the endurance athlete may only require a glucose solution. Unfortunately, salt-containing solutions can cause abdominal discomfort and vomiting and affect performance. Potassium loss has been identified as a further significant problem; therefore potassium is now in fluid replacement solutions.

B. Soft Tissue Injuries from Sporting Events

The effective treatment of acute soft tissue injury requires prompt assessment of the injury followed by the commencement of the R.I.C.E. programme.

Common injuries:

1. bruises (bleeding into the soft tissue and muscles);
2. ligament sprains and tears;
3. muscular and tendon strains and tears;
4. joint injuries;
5. over-use injuries, e.g. ligaments, joint or tendon inflammation;
6. fractures including stress fractures.

Both sprains and strains are over-stretching injuries. 'Sprains' involve ligaments and joints. 'Strains' relate to muscle and tendons. Muscular and ligament tears may be partial or complete.

Mechanisms

Most sports injuries are the result of a direct blow producing bruising (or contusion) or indirect dynamic force resulting in sprains, strains and tears. An increasing number of injuries are the consequence of over-use activities, e.g. joint, bony or tendon pain, such as seen following excessive participation in aerobic exercise sessions.

Prevention:

-Appropriate warm up and cool down activities.

-Proper stretching and flexibility work.

-In some cases, protective strapping, e.g. ankle.

-Being physically fit to perform a particular sport. This requires general fitness and special skills training, e.g. football or soccer.

-Adequate balanced diet. This reduces the need for dietary supplements.

Treatment

Once injury has occurred, the R.I.C.E. programme must be started.

R Rest. The injured soft tissues must initially be rested to decrease haemorrhage and swelling. Subsequently, a period of rest allows healing. However, this time is dependent upon the site of the injury and its severity.

I Ice applied for twenty minutes in a single application. It must not be applied directly on the skin. Direct application to the skin will harm it. Crushed ice should be wrapped in a wet towel or placed in a cotton bag prior to its application. The ice pack is applied around the affected joint or muscle. A bandage may be needed to retain the position of the pack.

Crushed ice is cheap, effective, easily prepared but messy. Manufactured 'cold packs' are very effective but costly. Some 'cold packs' can be applied directly to the skin and some cannot. It is important that the manufacturer's instructions are followed. Frozen food in a plastic bag, e.g. peas, is also an effective substitute. However, once thawed, the contents must be cooked or discarded.

C Compression from a moderately firm bandage controls swelling.

E Elevation of the injured part helps drainage and controls swelling.

Harm factors must be avoided

H Heat increases bleeding and swelling.
A Alcohol increases bleeding and swelling.
R Running or exercise too soon causes further injury.
M Massage in the first 24 to 48 hours increases swelling and bleeding.

If a **fracture** is suspected, the injury should be treated as such and referred for a medical opinion as soon as possible.

Dislocations should have ice packs applied over or around them, be splinted in a comfortable position and be immediately referred to an emergency department or a medical practitioner for assessment and continuing care. **No reduction is to be attempted by a first aider**. There may be a fracture associated with the injury which could affect the reduction and compromise the final result if managed inappropriately.

Continuing care of soft tissue injury in general

Following the initial treatment, every two hours, while awake, for the first twenty four hours, apply an ice pack to the injured area over the compression bandage for twenty minutes, still keeping the injury elevated. Perform ice application at least four times a day on the second day.

It is recommended that a medical practitioner or a physiotherapist should see the injured competitor for follow up no later than 48 hours after the injury.

Return to activity

No competitor should participate in a sporting event while an injury remains painful. Pain implies incomplete healing and potential further aggravation of an existing injury. A safe return to sporting activity requires:

1. The injury to be completely healed.
2. As appropriate, the participation in a rehabilitation programme designed to regain strength, balance, mobility and co-ordination of muscle or joint activity. This should be co-ordinated by a physiotherapist in consultation with a medical practitioner.

Practical Skill

3.1 Treat a soft tissue injury to an ankle

Checklist	Tick
Preparation and application of an ice pack	
Sit or lie the patient down.	
Soak a dressing in cold water; use a small hand towel if the area is large.	
Lightly wring out the dressing.	
Place a quantity of chipped ice in the centre of the dressing. (Proprietary ice packs are excellent. The manufacturer's directions must be followed. But they are more expensive than ice.)	
Fold the edges of the dressing so that the ice chips are contained.	
Place the ice pack on the area requiring treatment; maximum application time is 20 minutes in any one treatment.	
Apply firm pressure to the ice pack on the part without compromising circulation; patient to apply pressure if practicable, or secure with a conforming bandage.	
Elevate the injured part.	
Apply a pressure bandage to the area after the ice pack is removed.	
Ensure that circulation is not restricted.	

Ongoing treatment: Ice pack should be re-applied every 2 hours for a further 24 hours and then every 4 hours for a further 24 hours.

Practical skill mastered

Signed.....

Date.....

C. Heat Exhaustion in Athletes

A wide spectrum of injury and medical problems can occur in any runner in any sporting event. However, with endurance or distance events, a particular problem is exertion-induced heat exhaustion. Bear in mind that the 'fun runner', as opposed to the professional or serious amateur, is one who tends to train in the cool of the day and is not conditioned for competition. Heat affected individuals are those runners who collapse with an initial central body (core) temperature, as measured with a rectal thermometer, of 38.5 degrees or higher.

Heat exhaustion, as induced by the exertion of running, covers a range of situations from simple heat exhaustion to heat stroke. These conditions were dealt with in *Skills Maintenance Programme 1993* and the reader is directed to this information.

Our previous discussion reviewed the way the body physiology alters with the stress of exercise. From this we can understand the following problems encountered by competitors at endurance events such as fun runs and marathons.

1. Fluid loss

This can be considerable and must be replaced. If the patient is conscious, the safest fluid to be given by mouth initially is water. In the unconscious person, intravenous fluid is required but the type and method of administration is a medical not a first aid issue.

2. Fever

The body temperature can be significantly elevated. A core temperature of greater than 38 degrees constitutes heat illness. In the sports person who has collapsed or just competed, temperatures taken by mouth or axilla are not indicative of the core temperatures. However, first aiders are not permitted to take rectal or tympanic membrane temperatures.

Methods of heat reduction include:

-removal of heat retaining clothing;

-moving the person into the shade; a gentle breeze blowing around the patient facilitates heat loss; a fan is useful;

-apply ice packs to the groin, arm pits and around the neck.

3. Low blood sugar

Low blood sugar can be a problem, it is the result of the body having consumed most of its available glucose supply. If the person is conscious, it is best replaced by mouth with a glucose drink. Unfortunately these persons are often either unconscious or have an altered conscious state and therefore can not be given anything by mouth.

4. Muscle cramps

These are best managed by:

-stretching the affected muscle groups;

-the application of ice packs.

Prevention: "better than cure".

Event timing

Endurance and distance events are best held in the cool of the day, usually commencing in the early morning. The body's ability to cool down is also less efficient when humidity is high.

Training

A recognised running club is geared to the preparation of competitors. Ideally, a potential competitor should seek the assistance of such organisations. Entrants should be conditioned for the event. A sensible graduated training programme as discussed previously is recommended.

Diet

A well balanced diet is most important in the weeks prior to the event.

Fluid intake

500 mls of fluid should be consumed half an hour before the event. During the event, each competitor requires 100-200 mls of fluid to be taken at no more than 20 minute intervals.

The fluid consumed can be water. However, glucose and low concentration salt solutions are used by some competitors. Water and glucose are more important for the properly prepared and trained athlete than salt during the race. The body tolerates and absorbs glucose containing solutions of concentrations less than 2.5 per cent without the runner "feeling heavy in the stomach" or uncomfortable. More recently, short chain glucose polymers have been developed and are structured to be used in stronger concentrations than an equivalent quantity of glucose in water. These are more easily absorbed and are relatively free of the abdominal discomfort highlighted above.

Who should not compete

1. Persons with muscle or joint injuries that have not completely healed.
2. The unconditioned, unfit, untrained or unprepared person.
3. Any person who has had a fever or a significant illness within the week prior to the event. This includes the person who has had vomiting or diarrohea in the two days prior to or on the day of the event.

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Abraham, K. *Sydney to Surf Fun Run - Protocol for collapsed casualties in medical centres*. Royal Prince Alfred Hospital, Personal Communication.

Larkins, P. *Exertional Heart Illness*. ASMF Lecture, August 1988, Prince Henry's Hospital, Melbourne.

Skills Mastered

	Satisfactory	Fail	Re-test
EXAMINER Please tick	❒	❒	❒

Please sign and print name:

Signed:.....Date...../...../1994.

Name:.....Position:.....

Qualification: (Please tick where appropriate)

Doctor.....Registered Nurse.....Ambulance Officer.....

Training Branch Accredited Instructor:.....

Operations Branch Member (approved by District Surgeon):.....

Venomous Bites and Stings

PRESCRIBED REFERENCES:

Australian First Aid. Vol. 1, 1989, Ch. 16.
Sutherland, Struan K. 'Management of Snake Bite in Australia', *Modern Medicine Australia*, December 1992, p.66 and p. 72 .
Pearn, John & Covacevich, Jeanette *Venoms & Victims*. Queensland Museum and Amphion Press, Brisbane, 1988, Ch. 13 and 14.

OBJECTIVE:

4.1 After completing this training segment, the St John member will be able to recognise and treat the bites and stings of venomous creatures common in his/her area.

General Rules of Treatment

- D.R.A.B.C.;
- take a history of the time and site of the bite or sting and where the casualty was when bitten;
- apply treatment quickly;
- transfer the casualty to hospital, via ambulance, as soon as possible;
- even if you doubt that a person has been bitten, seek medical attention.

Practical Incident

4.1 Treatment of snake bite

Stores:

Clean handkerchief
Crepe bandages
Splint

A 16 year old girl is with you on a camping holiday. She puts her hand into long grass, feels what she thinks may have been the bite of a snake and calls out to you.

Checklist	Tick
Approach - Sit the girl down.	
History Ask -What happened?: "I dropped my bracelet in the grass and thought something bit me when I picked it up". -When did this happen?: "About one or two minutes ago."	
Symptoms - Do you have any nausea? -"A little". dizziness? -"A little". sweating? -"No". pain? -"No". headache? -"No". chest pain? -"No".	
Signs Examine suspected bite. Notice single small scratch with a faint bruise over the back of the wrist. Check pulse - 120; respirations - 30; temperature - normal; skin colour - pale; skin temperature - clammy.	
Treatment Rest casualty. Apply 10 cm crepe bandage or other improvised bandage firmly around wrist - multiple turns. Bandage the hand, leaving the finger tips exposed. Then bandage from the fingers up to the armpit. Apply a splint along the arm. Bind the splint firmly to the arm with more bandages. Telephone and consult; or arrange urgent transport to medical aid.	

Practical skill mastered

Signed.....

Date.....

Skills Mastered

	Satisfactory	Fail	Re-test
EXAMINER Please tick	❒	❒	❒

Please sign and print name:

Signed:.....Date...../...../1994.

Name:.....Position:.....

Qualification: (Please tick where appropriate)

Doctor.....Registered Nurse.....Ambulance Officer.....

Training Branch Accredited Instructor:.....

Operations Branch Member (approved by District Surgeon):.....

MODULE 5

Aspects of Preventive First Aid

PRESCRIBED REFERENCES:	*Australian First Aid.* Vol. 1, pp. 17-28, 1989. Australian Standards ASA 1319. National AIDS Council publications.
OBJECTIVES:	After completing this section, the Operations Branch member should be able to: **5.1** Outline accident prevention measures. **5.2** Identify the factors which will reduce the incidence of accidental injury: - in a workplace; - in a school. **5.3** Discuss and demonstrate skills of Universal Precautions in infection control.

1. Accident Prevention

Nobody likes to be injured and, when injured, people react differently. When approaching any incident, the Operations Branch member should remember the basics of D.R.A.B.C.

DANGER is the most important factor to remember.

With dangers the most important person at any incident is you, the first aider; your own safety is paramount, followed by that of the bystanders and then the casualty.

When checking for dangers we need to check by:

- **Looking** Stop, look around and observe the area before you proceed into the scene. It only takes a few seconds to look around. Can you see any visual indicators as to what may have caused the incident, e.g. fallen power lines?

- **Listening** Listen for sounds which may indicate what has caused the incident, e.g. machinery running, power tools, hissing sounds from escaping gases, vehicle noises.

- **Feeling** When checking by feeling, we are only checking for heat. Always use the backs of the hands rather than the palms. If you see smoke coming from under a door, don't open the door, as this may fuel the fire. Check the door for temperature; if it is hot or warm, don't open it. Remember that a door may feel cool to touch but still have a large fire behind it. This may be due to the fact that a door may be a fire door produced to prevent the spread of fire. In this case, check the temperature of the handles, hinges or door frame.

- **Smelling** When checking by smell, the aim is to smell for any odour in the air which may be present that may have caused the incident or be the result of the incident. To check we should only take a small whiff to see if there is an odour. Some odours are dangerous before they can be detected by the human nose. It is important to remember that a lack of oxygen may have caused the person/s to be affected. The casualty may have collapsed by entering into a confined space. So, before entering this area, we should see whether the area can be ventilated or if we need to wait for the arrival of rescue personnel with breathing apparatus. Avoid the use of handkerchief over the mouth as this is not safe.

- **Asking** Ask the casualty or the bystanders what happened. This may indicate the dangers that may be present.

In the workplace and school

Many factors have assisted in reducing the incidence of accidents in the workplace:

-Governments have legislated. The introduction of Occupational Health and Safety (O.H.S.) legislation has helped reduce the number of persons injured.

-Codes of Practice have been introduced to help both employers and employees set standards, to assist in reducing the number and severity of workplace injuries.

-Australian Standards have been developed to assist in giving guidance for industry, by contributing to safe work practices.

-Safety signs for the occupational environment have been introduced. These signs indicate that dangers may be present, that there is a need to wear safety equipment or where emergency equipment can be located. The signs are available in four different colours, depending on the need.

Employers provide safety equipment for their employees to reduce the number and severity of workplace injuries. Such items are:

-safety shoes to prevent injuries to feet from items being dropped or spilt on them, or by standing on objects;

-safety glasses to prevent injuries to the eyes from foreign objects;

-safety helmets to prevent head injuries from falling objects or from bumping into things;

-hearing protection, either ear plugs or ear muffs, to reduce the amount of noise to which the ear is exposed;

-safety showers for eyes or full body showers are designed to dispense copious amounts of water to persons who have been burnt from flame or chemicals.

Regular testing of hearing has been introduced as part of hearing conservation programmes to monitor the effects of noise on hearing and the effectiveness of hearing protection. Regulations have been introduced to reduce the maximum noise levels to which the unprotected ear should be exposed.

Despite using proper infection control measures, St John members may be worried that they have been exposed to infectious material from a casualty. This may occur in two ways:

(a) If the first aider has an open wound or area of broken skin and infected blood or body fluids come into contact with that area.

(b) 'Sharps' injury. This occurs when a sharp object which has been used on a casualty sticks into the first aider.
Sharps' are:

- used needles;
- used razor blades;
- used scalpels;
- used suture needles;
- broken glass etc. with blood on it.

Treatment of 'Sharps' injuries and contact with potentially infected material

If Districts have not already formulated their own policies regarding 'sharps' injuries or contact with potentially infected material, the following guidelines should apply:

(a) At once

- Wash the affected area with running water and encourage the wound to bleed initially.
- Appropriately dress the wound according to the current St John First Aid Manual.
- Contact the duty officer regarding the incident. The duty officer will ensure that the records of the casualty who is the source of potentially infective material are correct (including name, address and phone number).
- The duty officer will briefly explain to the casualty what has happened and state that a medical officer from St John Ambulance Australia will contact him/her.

(b) Before completion of the duty

The duty officer or first aider will arrange to telephone the appropriate St John medical officer within 24 hours of the incident; policies will vary from District to District and the District Surgeon will determine who is to be notified. This will be followed up with a written report to be submitted via the chain of command to the District Surgeon, with a copy to be kept by the first aider.

(c) Within 48 hours

The first aider should have a blood test for Hepatitis B and HIV/AIDS. Ideally the casualty should have a test also. The St John medical officer will discuss this with the casualty. Results of the test are not known for a few weeks. If there is a strong risk of infection with Hepatitis B and the first aider has not been successfully vaccinated in the past, the first aider requires a special Hepatitis B immunisation. This is available from the Red Cross Blood Bank in each State and is most effective if given within 48 hours. This must be arranged by a doctor.

Districts may choose to send their members to a public hospital where members can receive comprehensive and confidential service, rather than organise testing and follow up through St John medical officers. Tetanus infection must also be considered and a member may need a tetanus injection or other treatment as determined by the medical officer.

(d) Long-term follow-up

Depending on the circumstances, the first aider may need further blood tests 3, 6 and 12 months after the incident.

All 'sharps' injuries must be taken very seriously, even if your feeling is that the casualty is unlikely to have Hepatitis B or HIV/AIDS. 'Sharps' injuries are to be documented on a casualty record.

Prevention of 'Sharps' injuries

All 'sharps' must be disposed of safely, as soon as they are used, into a suitable container. There are approved 'Sharps' Disposal Units available through St John suppliers.

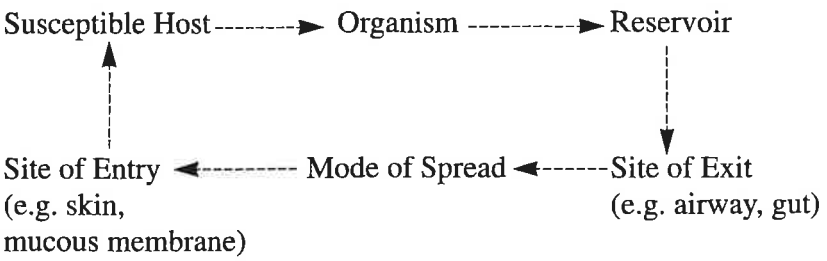
If for some reason an approved 'Sharps' Disposal Unit is not available and a sharp object needs to be disposed of, you may use an improvised container. An improvised container must have rigid walls and a narrow opening. A hard plastic bottle is acceptable. This container must then be disposed of properly. Ask your local chemist, hospital or doctor to do this for you.

3. Prevention of Infection for First Aiders

Infection can be defined as "invasion and multiplication of microorganisms in body tissues". Microorganisms are minute particles, far too small to be seen with the naked eye, the great majority of which can be classified as fungi, bacteria or viruses.

The objective in the prevention of infection (and subsequent cross-infection) is to 'break the chain' in the mechanism of transfer of microorganisms from one person to another.

The Chain of Infection



When aiming to prevent the potential for transfer of microorganisms, in first aid situations, we attempt to place barriers at the site/s of entry. In general there are two forms of barriers that we can take advantage of:

- Biological Barriers: These maintain the immune status of individuals, i.e. keeping one's vaccination regimen up to date, for example for tuberculosis, tetanus and Hepatitis B.

- Physical Barriers: These take the form of procedures and protocols designed to prevent direct exposure to microorganisms, i.e. appropriate use of protective equipment as, for example, Universal Precautions.

Universal Precautions is an approach that encompasses a series of strategies and actions that aim to prevent infection transfer, based on the assumption that all persons are infectious. That assumption eliminates the need to identify those persons who present a potential infection risk as opposed to those persons who do not. This is especially useful since there may not even be medical tests that can absolutely rule out all potential infection risks.

By far the most significant risk of infection is from exposure to the blood or body fluids of infected individuals; for example, such diseases as Hepatitis B and HIV are passed from one person to another in this way. This exposure to another person's blood or body fluids must be minimised, or even better, eliminated altogether. Body fluids that are considered potentially infective include:

-blood;
-faeces;
-urine;
-vaginal secretions;
-semen;
-body tissues;
-cerebro-spinal fluid (fluid produced within the brain which surrounds the brain and spinal cord);
-synovial fluid (fluid found within joints);
-pleural fluid (thin layer of fluid in the cavity around the lungs);
-peritoneal fluid (fluid found in the cavity which surrounds organs in the abdomen and pelvic cavity);
-pericardial fluid (thin layer of fluid in the pericardial sac around the heart);
-amniotic fluid (fluid which surrounds a developing baby in the uterus);
-breast milk;
-other body fluids that may contain blood.

Preventing exposure to these fluids provides the physical barrier that 'breaks the chain' in the transfer mechanism of microorganisms.

Strategies include handwashing, protective equipment and correct techniques.

(a) Handwashing

This is the primary and **most important** part of infection (and cross-infection) prevention. Handwashing with soap and running water is an easy way to remove soiling and transient organisms.

Use of an approved medicated soap is recommended, as these agents contain anti-microbial ingredients. When washing hands, it is important to reach all skin surfaces. Hands should be inspected for cuts, scratches, warts or other lesions and these should be covered with an approved protective dressing. Preventing dryness (which encourages skin cracking and peeling) can be achieved by thorough drying of hands and the use of an approved hand cream. If running water is not available, then hands should be cleansed with in approved hand cleaning towellette. If clean towels for drying hands after washing are not available, air drying hands is more appropriate than risking re-contamination using unclean materials.

(b) Protective equipment

This includes all manner of equipment that may be worn or used to prevent exposure to another person's body fluids. Included are gloves, masks, goggles, aprons, pocket masks for E.A.R. or other makeshift appliances.

In general first aid settings, gloves are clearly the most important of these. However, gloves in themselves should not be considered as all protecting. Research has shown that handwashing is neglected when gloves are used. It appears that people are of the mistaken belief that gloves provide adequate protection and keep hands clean. This is definitely not the case. There is ample evidence that has demonstrated that microorganisms multiply rapidly inside gloves and that both bacteria and viruses can leak through. Even new gloves have been shown to have a 2 per cent leakage rate, increasing to 50 per cent as they are stressed during use. Therefore, whilst the use of protective equipment and, in particular, gloves is strongly recommended, handwashing must remain an imperative part of sound infection prevention practice.

In the first aid situation, gloves are used as a barrier to infection when any body fluids or open wounds are involved. They are worn not only to prevent infection passing from the casualty to the carer but also from the carer to the casualty.

Ideally, wash your hands prior to donning gloves. Dry your hands thoroughly. Check the gloves to ensure they are not damaged. Gloves that are removed from multipacks are not sterile but are considered clinically clean. Care should be taken when removing gloves from multipacks, that the gloves are handled by the wristband rather than the fingers, to maintain the cleanliness of the surface which will come in contact with the casualty. When donning the gloves, the carer's hands should only be in contact with the inside surface of the gloves.

When removing gloves after use, again it is essential not to touch the outside (contaminated) surface of the gloves. Grasp the wristband of the glove with the other hand and carefully peel the glove over the hand, turning the glove inside out. Gloves are then disposed of with all other contaminated disposable items in a sealed hazardous waste bag or container.

If possible, again wash and dry your hands after the disposal of the gloves. Gloves should be changed between casualties to avoid spreading infection from one casualty to another.

(c) Correct techniques

The success of any procedure or activity associated with infection prevention is dependent upon the user's ability to apply correct techniques for undertaking the activity. As already discussed, handwashing techniques are an example. It is vital that all accepted guidelines are adhered to when practising first aid procedures. Guidelines and protocols that are applicable to infection prevention are just as important as correct first aid management.

(d) Recommendations for first aiders

-Keep vaccine regimen up to date.
-Cover cuts, scratches and lesions on the hands.
-Use all protective equipment available to you.
-Ask casualties to hold their own wounds, if able.
-Wash any blood or body fluid spills off as soon as possible.
-Always wash hands before and after any exposure, even if you are wearing gloves.
-Dispose of contaminated equipment and materials correctly.

Questions

1. Does your State/Territory have Occupational Health and Safety legislation? If so, what is its title?
2. What is the number of the Australian Standard for safety signs for use in the occupational environment?
3. What are the four colours for these signs?
4. What does each colour represent?
5. Obtain different types of safety equipment used to prevent injury in the workplace and discuss their uses.

Exercises

1. Check that the skin of your hands is intact by washing them in vinegar or methylated spirit. Any breaks in the skin will cause stinging. Alternatively, using an alcohol-based hand wash will indicate breaks in the skin.

2. Don a pair of gloves from a multipack prior to attending to a wound. Then remove the gloves and dispose of them correctly.

Skills Mastered

	Satisfactory	Fail	Re-test
EXAMINER Please tick	❒	❒	❒

Please sign and print name:

Signed:.....Date...../...../1994.

Name:.....Position:.....

Qualification: (Please tick where appropriate)

Doctor.....Registered Nurse.....Ambulance Officer.....

Training Branch Accredited Instructor:.....

Operations Branch Member (approved by District Surgeon):.....

Heart Conditions and Medical Conditions

PRESCRIBED REFERENCE: Supplementary Training Material.

OBJECTIVE: **6.1** At the end of this training segment, the St John member should be able to recognise the differences between angina, coronary occlusion and congestive cardiac failure, and be able to offer emergency first aid care for these conditions.

Supplementary Training Material

1. Review of the Heart

The heart is a muscular organ in the centre of the chest. It pumps blood around the body and to the lungs.

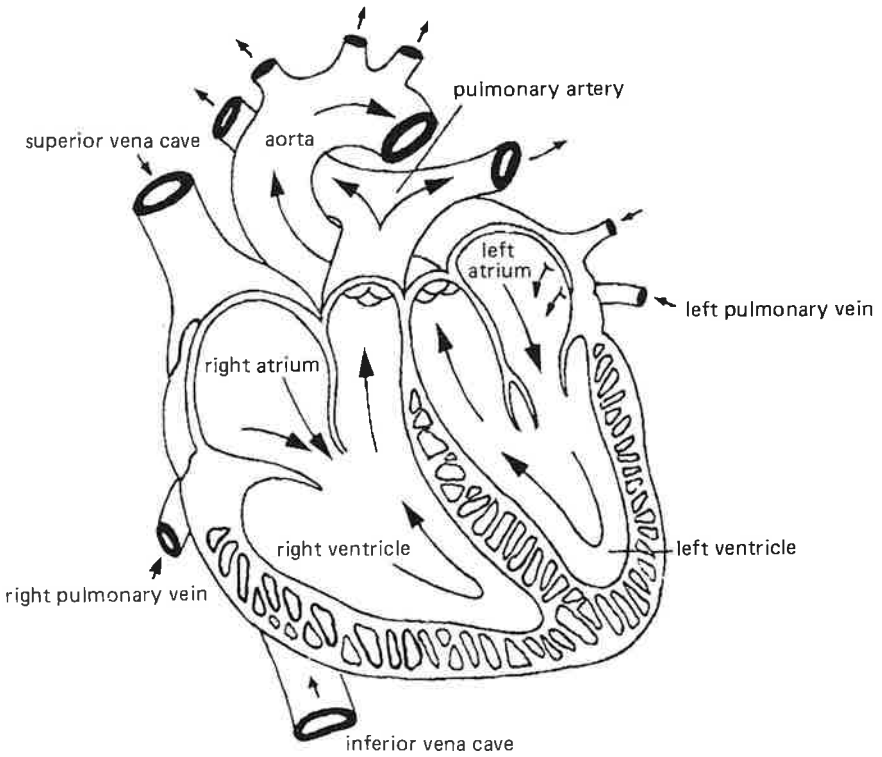


Fig. 1 The Heart

2. Heart Disease - Cause and Prevention

The heart is made of muscle and therefore can be damaged by infection or poisons, e.g. alcohol. The **blood supply** to the heart can be blocked by the hardening of the arteries around the heart. This may lead to a heart attack - also known as coronary occlusion or myocardial infarction - which results in death of part of the heart muscle and further deterioration of heart function.

Heart disease is more common in people who smoke, drink alcohol to excess, are overweight and underactive, and who have a high cholesterol level. Heart disease also runs in families.

To minimise your chances of heart disease you should:

-not smoke;

-drink alcohol in moderation, or not at all;

-exercise for 20 minutes at least 3 times a week;

-stay in the normal weight range;

-have your blood pressure checked regularly;

-avoid stress.

3. Angina

Angina is a pain due to cramp in the heart muscle, as a result of partial blockage of one of the coronary arteries. Angina usually occurs after exercise or exertion, when the heart beats more quickly and needs a greater blood and oxygen supply. However, because the artery is narrowed, extra blood can't get through and the heart muscle is starved of the extra oxygen it needs. This may settle with rest or medication.

History

The patient will have a history of chest pain with effort, relieved by rest or medication. He/she may have had a heart attack previously.

Symptoms

The patient may have some or all of these:

-central chest pain "like a weight on the chest" or "like a band around the chest", perhaps radiating to the back, jaw, neck and forearm;

-nausea;

-shortness of breath;

-feeling of doom.

Signs

Patients with heart pain look terrible. They may be grey, sweating, breathing fast, hunched forward and rubbing the chest with their hands.
They may have:

-rapid, thready pulse;

-rapid respirations;

-clammy skin.

Treatment

-D.R.A.B.C.;

-sit or lie patient in a position of comfort;

-loosen tight clothing;

-help patient take any prescribed medication:

- •angina tablets under the tongue (give no more than 2 before seeking medical aid);
- •mouth spray;
- •medicated patch to put on the skin.

N.B. Check that the medication is not out of date.

-give oxygen if it is available at 8 l/min. via therapy mask;

-reassurance.

If the chest pain lasts more than 10 minutes, seek urgent medical aid.

If angina lasts more than 20 minutes, this episode of chest pain may not be angina but a heart attack.

Watch out for the patient getting worse. He/she may get worse slowly, with the pulse rising, and poor colour and sweating continuing. He/she may deteriorate quickly, with sudden collapse or cardiac arrest.

If this is the casualty's first episode of possible angina or coronary occlusion, call an ambulance. If a casualty with known angina is not relieved of pain in 10 minutes, also call an ambulance.

Document your findings in writing and state time called, time arrived to assess casualty and time casualty re-assessed.

4. Coronary Occlusion

Coronary occlusion is the complete blockage of coronary artery, which deprives a section of the heart muscle of all its oxygen. This leads to **acute myocardial infarction** (death of heart muscle).

History, symptoms and signs are usually indistinguishable from those of an angina attack. An episode of angina unrelieved by rest or angina medication after 20 minutes is a heart attack, unless proven otherwise in hospital.

Occasionally a person with less dramatic and less intense chest pain will turn out to have a coronary occlusion. If in doubt, seek medical advice.

Treatment

-As for angina.

-Watch out for sudden collapse and for cardiac arrest.

-Keep the patient under constant supervision, checking pulse, respirations and colour, every 10 minutes;

-Document your findings.

Fig. 2 Heart Attack Victim

5. Congestive Cardiac Failure

Congestive cardiac failure or 'heart failure' is due to weakness of the heart muscle or a heart valve malfunction. If there is mainly right-sided heart failure, fluid will build up in the general circulation, causing congested, tender liver, swollen ankles and swollen veins in the neck.

Pulmonary oedema is caused by weakness or failure of the left side of the heart, i.e. the left ventricle. Fluid builds up in the lungs and fills up the alveoli (air sacs). Because of this, gas exchange in the alveoli cannot occur and the patient is starved of oxygen.

History

The patient may have a history of heart disease, with breathlessness when he/she lies down flat at night. Pulmonary oedema can commence very quickly or build up slowly over several weeks.

Symptoms

-severe shortness of breath;
-cough;
-chest tightness.

Signs

-very anxious and agitated;
-rapid distressed respirations;
-sweating;
-rapid pulse;
-pink, frothy sputum;
-grey or cyanosed.

Treatment

-D.R.A.B.C.;
-reassurance;
-sit patient upright with his/her feet on the floor;
-give oxygen at 8 l/min.via face mask;
-urgent medical aid.

Congestive cardiac failure can also occur with failure of the right side of the heart. This results in swelling of the ankles.

Points for Discussion

How healthy is the St John lifestyle?

Think about what we do at meetings or on duty. We have long periods of sitting or standing about doing nothing. Then we race off to carry someone on a stretcher, to attend a collapse, to practise or perform C.P.R.

A lot of us smoke (some of us smoke a lot). We eat chips, pies, hamburgers, cakes and biscuits on duty and we drink lots of coffee and sweet drinks; I have never yet seen a can of diet drink in a first aid room!

When we have our well-earned social nights, we all "bring a plate"
- lamingtons, chocolate biscuits, sponge cakes, chips, peanuts - all yummy stuff that goes straight to the hips and the hearts.

How can we become more 'Fit for Duty'? The National Heart Foundation has offices in each State, and will send out pamphlets, diet books, posters and guest speakers.

This copy to be used for practice with the skill sheet

ST JOHN AMBULANCE AUSTRALIA
NATIONAL CARDIAC ARREST DATA COLLECTION - UTSTEIN STYLE

Division or District Duty.....

Location of Duty..... Location of Casualty Inside ❒ Outside ❒
Tick appropriate box

Date - Day - Month - Year.....

Weather at time.....

Age of Casualty.....years	Accurate ❒	Guess ❒
Sex of Casualty	Male ❒	Female ❒
Pre-existing cardiac disorder (if known)	Yes ❒	No ❒
Drugs taken (e.g. Anginine)	Yes ❒	No ❒
Smoker	Yes ❒	No ❒
Alcoholic Odour	Yes ❒	No ❒

Pre-arrest symptom (e.g. chest pain, pallor)

.....

Witnessed cardiac arrest	Yes ❒	No ❒
Arrest after St John first aider arrived	Yes ❒	No ❒
Arrest after Ambulance arrived	Yes ❒	No ❒
Arrest after medical support arrived	Yes ❒	No ❒

CALL RESPONSE INTERVAL.....minutes
(Period of time between receipt of call and arrival of St John first aider at casualty)

ASSESSMENT INTERVAL.....seconds
(Period from arrival of St John first aider till arrest assessed i.e. unresponsive, breathless, pulseless casualty)

TYPE of expired air resuscitation e.g. mouth to mask.....

.....

Time C.P.R. commenced.....hours and minutes (24 hour clock)

Time IF CIRCULATION restored.....hours and minutes (24 hour clock)

Time IF BREATHING restored.....hours and minutes (24 hour clock)

Time AMBULANCE CALLED.....hours and minutes (24 hour clock)

Time AMBULANCE ARRIVED.....hours and minutes (24 hour clock)

Time if C.P.R. ABANDONED.....hours and minutes (24 hour clock)

Time AMBULANCE DEPARTS WITH CASUALTY.....hours and minutes (24 hour clock)

Destination of Casualty (e.g. name of hospital).....

Complete as accurately as information available permits

TYPE OF ARREST

1. PRESUMED CARDIAC
(e.g. coronary occlusion; myocardial infarcation; cardiac arrhythmia..... Yes ❒ No ❒

2. NON-CARDIAC e.g. Sudden Infant Death Syndrome..... Yes ❒ No ❒

Drug overdose..... Yes ❒ No ❒

Suicide..... Yes ❒ No ❒

Drowning..... Yes ❒ No ❒

Severe Bleeding..... Yes ❒ No ❒

Or presumed cause

.....

.....

Comments by first aider or duty officer to cover items not covered above or on the previous page

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Signature of person completing proforma.....

Printed name of person completing proforma.....

Add names, addresses and phone numbers of contacts - to assist in following up the casualty

.....

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Please return this form, together with a copy of the Casualty Report form OB12 completed for the casualty with the suspected or confirmed cardiac arrest, as soon as possible, to:

Dr J. Fred Leditschke
C/o Assistant Secretary (Operations)
St John Ambulance Australia
P.O. Box 3275,
MANUKA, ACT 2603

This copy to be retained for use with a cardiac arrest casualty

ST JOHN AMBULANCE AUSTRALIA
NATIONAL CARDIAC ARREST DATA COLLECTION - UTSTEIN STYLE

Division or District Duty.....

Location of Duty..... Location of Casualty Inside ❒ Outside ❒
Tick appropriate box

Date - Day - Month - Year.....

Weather at time.....

Age of Casualty.....years	Accurate ❒	Guess ❒
Sex of Casualty	Male ❒	Female ❒
Pre-existing cardiac disorder (if known)	Yes ❒	No ❒
Drugs taken (e.g. Anginine)	Yes ❒	No ❒
Smoker	Yes ❒	No ❒
Alcoholic Odour	Yes ❒	No ❒

Pre-arrest symptom (e.g. chest pain, pallor)

.....

Witnessed cardiac arrest	Yes ❒	No ❒
Arrest after St John first aider arrived	Yes ❒	No ❒
Arrest after Ambulance arrived	Yes ❒	No ❒
Arrest after medical support arrived	Yes ❒	No ❒

CALL RESPONSE INTERVAL.....minutes
(Period of time between receipt of call and arrival of St John first aider at casualty)

ASSESSMENT INTERVAL.....seconds
(Period from arrival of St John first aider till arrest assessed i.e. unresponsive, breathless, pulseless casualty)

TYPE of expired air resuscitation e.g. mouth to mask.....

.....

Time C.P.R. commenced.....hours and minutes (24 hour clock)

Time IF CIRCULATION restored.....hours and minutes (24 hour clock)

Time IF BREATHING restored.....hours and minutes (24 hour clock)

Time AMBULANCE CALLED.....hours and minutes (24 hour clock)

Time AMBULANCE ARRIVED.....hours and minutes (24 hour clock)

Time if C.P.R. ABANDONED.....hours and minutes (24 hour clock)

Time AMBULANCE DEPARTS WITH CASUALTY.....hours and minutes (24 hour clock)

Destination of Casualty (e.g. name of hospital).....

Complete as accurately as information available permits

TYPE OF ARREST

1. PRESUMED CARDIAC
(e.g. coronary occlusion; myocardial infarcation; cardiac arrhythmia..... Yes ❒ No ❒

2. NON-CARDIAC e.g. Sudden Infant Death Syndrome..... Yes ❒ No ❒

Drug overdose..... Yes ❒ No ❒

Suicide..... Yes ❒ No ❒

Drowning..... Yes ❒ No ❒

Severe Bleeding..... Yes ❒ No ❒

Or presumed cause

.....

.....

Comments by first aider or duty officer to cover items not covered above or on the previous page

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Signature of person completing proforma.....

Printed name of person completing proforma.....

Add names, addresses and phone numbers of contacts - to assist in following up the casualty

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Please return this form, together with a copy of the Casualty Report form OB12 completed for the casualty with the suspected or confirmed cardiac arrest, as soon as possible, to:

Dr J. Fred Leditschke
C/o Assistant Secretary (Operations)
St John Ambulance Australia
P.O. Box 3275,
MANUKA, ACT 2603

Assessment of the Casualty with Chest Pain: Is it a Heart Attack?

It is often very difficult, even for doctors in an Emergency Department with every piece of equipment, to decide if a patient with chest pain has had a heart attack.

Here are **some** of the things to consider.

PROBABLY HEART PAIN	PROBABLY NOT HEART PAIN
Does not look well.	Looks well.
What kind of patient? -over 40 -overweight -unfit -smoker -on blood pressure tablets -diabetic -one or both parents had/have heart problems	**What kind of patient?** -young -slim -active -non-smoker -no other health problems -no-one in the family with heart problems
What kind of pain? -heavy, dull -in centre of chest -spreads to arm or neck or jaw -came on after exertion	**What kind of pain?** -sharp, stabbing, momentary -upper part of chest -pain worse with movement or breathing
Other symptoms -shortness of breath -sweating -nausea -thinks he/she is going to die -dizziness	**Other symptoms** -no other symptoms
Signs -grey colour, clammy skin -blue lips -fast, weak, pulse; may be irregular -shallow breathing -sitting very quietly, rubbing the chest.	**Signs** -pink, warm skin -strong pulse -regular deep breathing -moves freely and energetically

6.1 Emergency care of patient after a cerebro-vascular accident

Note: Cerebro-vascular accident is also referred to as C.V.A or a stroke. It can be caused by bleeding into the brain, or a blood clot blocking off circulation to one part of the brain. C.V.A. is more common in older people with high blood pressure, in smokers and in diabetics.

C.V.A. may occur as:

-sudden loss of consciousness
-sudden loss of strength, movement or feeling to one or more areas of the body.

A stroke may occur at any age. The patient may have all the symptoms and signs of a stroke, but then recover over a period of seconds, minutes or hours. This is called a transient ischaemic attack - T.I.A. - and is a warning signal that a real stroke, causing permanent damage, may occur. It is a warning that must not be ignored by the patient, or those looking after the patient.

Practical Incident

Checklist	Tick
Recognise problem Take a history of this incident. Ask about previous medical problems and medication.	
Check for dangers Full D.R.A.B.C. and coma/lateral position if patient is unconscious. If patient is conscious, keep well supported, lying or sitting, with the head forward, so he/she can spit out secretions.	
Airway care Regular airway checks. Note: A C.V.A. patient who has trouble talking may also have trouble swallowing his/her saliva.	
Physical assessment Assess movement of all limbs and both sides of face. Assess conscious state. Assess vital signs: -pulse; -respirations. Check pupils and conscious state. Note: A C.V.A. may get worse or improve over several hours.	
Prevent further damage Seek urgent medical aid. Continue to check pressure areas in limbs which are paralysed. Use oxygen therapy - 8 l/min. via face mask.	
Records Write everything down and hand records on to further aid.	

Practical skill mastered

Signed:.....

Date:.....

6.2 Emergency care of a patient with anaphylactic shock

Note: Anaphylactic shock is a sudden, overwhelming and often fatal allergic reaction, usually to an insect bite or a drug, e.g. penicillin, or a food, e.g. shellfish.

It may have happened before. The patient becomes ill over several minutes, with:

-itching and hives - a raised, red , blotchy rash;
-swelling of face, mouth, tongue;
-increasing shortness of breath;
-palpitations, possible cardiac arrest.

Checklist	Tick
Recognise problem. Take a history of this attack and previous attacks. D.R.A.B.C.	
Stop symptoms becoming worse. Patient may have own medications - tablet, spray or injection - and need help to use them. Note: Anxiety about the symptoms can make the reaction worse: -rest patient propped forward; -loosen tight clothing; -apply ice pack around throat for 10 minutes.	
Prepare oxygen and suction equipment.	
Check vital signs: -respiration; -pulse; -colour.	
Give oxygen if available at 8 l/min. Assist breathing if necessary.	
E.A.R. and C.P.R. may be needed: Suck mucus from airway of patient who cannot swallow.	
Continue to reassure casualty and monitor vital signs.	
Record all observations.	

Practical skill mastered

Signed:.....

Date:.....

Points for Discussion

1. How many Divisional members have allergies?
2. How severe are the reactions?
3. Do they carry medications for these allergies?
4. Do they have a Medi-Alert Tag in case of emergencies?

6.3 Emergency care of a patient with emotional overbreathing

Emotional overbreathing occurs when a person becomes over-excited. It occurs mainly in teenagers and young adults.

The symptoms and signs are:

-patient is obviously distressed and short of breath;
-numbness and tingling around lips
-cramp in hands and feet.

Note:

1. Cramps in hands and feet are due to low carbon dioxide levels in the blood.
2. A severe asthma attack may resemble emotional overbreathing, but there are some differences. Usually asthma attacks build up gradually, and ease when the patient uses his/her medication. Usually, you can hear a wheeze as the patient breathes. Asthmatics will **not** have spasm of their hands and feet. A patient with a severe asthma attack will usually be quiet, pale and very anxious.

Practical Incident

Checklist	Tick
Help patient relax: -rest the patient; -remove all unnecessary people from the scene; -reassure the patient constantly; -check pulse and respiration rate.	
Encourage the patient to take deep, slow and regular breaths until the symptoms ease. You will need to demonstrate this and breathe with them. Re-check pulse and respiration.	
Note: If the symptoms do not settle, there may be another problem present, e.g. asthma.	
Follow up When the patient calms down, talk gently about what may have started this attack. Make sure the patient goes home with a friend.	
Records Record all observations made and treatment given.	

Practical skill mastered

Signed:.....

Date:.....

Skills Mastered

	Satisfactory	Fail	Re-test
EXAMINER Please tick	❒	❒	❒

Please sign and print name:

Signed:.....Date...../...../1994.

Name:.....Position:.....

Qualification: (Please tick where appropriate)

Doctor.....Registered Nurse.....Ambulance Officer.....

Training Branch Accredited Instructor:.....

Operations Branch Member (approved by District Surgeon):.....

MODULE 7

Administration of Medicines

PRESCRIBED REFERENCES: *Family Care at Home*. Leaflet 6 and Skills Booklets 11-17, 1990.

OBJECTIVES: Having studied the appropriate texts and supplementary material the member will be able to:

7.1 State routes of administering medicines.
7.2 State forms in which medicines can be administered.
7.3 State the 'Five Rights' of giving medication.
7.4 State what must be checked prior to giving medication.
7.5 State the drugs used in the first aid kit and the precautions that must be taken with them.
7.6 Complete practical checklists for administering medications.

Introduction

Drugs are substances that are used in the preparation of medicines and can be obtained from:

-vegetables, e.g. digitalis from foxglove leaves;

-minerals, e.g. iron;

-chemical laboratories, e.g. aspirin;

-bacteriological laboratories, e.g. anti-toxins.

Scheduling

All medications are subject to a classification according to their potential to damage/be addictive to the user. This scheduling varies slightly from State to State in Australia but is done according to Acts and Regulations brought down by the Health Department/ Commissions in that State.

Standardisation

All drugs must be standardised prior to use so the same quantity of drug is in each measure of medication, whether in liquid or solid form. The British Pharmacopia is the standard reference book.

Types of medication and routes of administration

1. Oral (by mouth)

- liquids (elixir, drops, suspension)
- tablets
- capsules

2. Injected - liquids
    - subcutaneous (under skin)
    - intramuscular (into muscle)
    - intravenous (into vein)

3. Topical (applied to the skin)
    - powder
    - paste
    - solution
    - ointment
    - cream
    - gel

Eyes, ears and nose, usually drops but some ointment.

4. Rectal (inserted into rectum)
    - suppositories
    - cream

5. Vaginal (inserted into vagina)
    - pessaries
    - cream
    - tablets

6. Inhaled
    - vapours (from liquids)

Prescribing of drugs

Drugs are prescribed by a medical practitioner or dentist and are dispensed by a pharmacist. The information required on the label of dispensed medication is:

1. **Patient's name:** both given name and surname.
2. **Name of the medication:** this may be written as its chemical/generic name (e.g. paracetemol) or manufacturer's trade name (e.g. Panadol, Dymadon, Panamax).
3. **Route of administration:** should be specified for the medication for the particular complaint (e.g. Nystatin cream may be applied topically to the skin or vaginally; Nystatin drops are dropped into the mouth; Nystatin tablets are swallowed).
4. **Dose:** the dose is specified to give maximum benefit and should not be diminished or increased without consulting the prescribing medical practitioner (e.g. antibiotics to be taken 4 times per day should not be reduced to 2 or 3).
5. **Frequency/Time:** usually written as number of times the medication should be given per day or how many hours between each dose (e.g. 4 times daily, 8 hourly). Most medications do not need to be given during early morning sleeping hours but can be given upon waking. This should, however, be checked with either the prescribing medical practitioner or the pharmacist

(e.g. antibiotics to be given 8 hourly do not necessarily need to be given exactly 8 hours apart). Some medications need to be given either prior to or after eating to minimise side effects and/or facilitate absorption. St John members are only allowed to give medications that are:

1. On the first aid kit list (as approved by the District Surgeon).
2. The patient's own, that has been prescribed by their medical practitioner, which they have with them, having the correct name and dose on the container.

Administering medications

When administering medication to any person the St John member must consider:

-the reason the medication is being given;

-the desired effects of the medication;

-any side effects the medication may have.

Prior to administering medication in either a first aid or home nursing situation, the following should be checked:

-the complaint/illness for which it is being given;

-the history of the complaint/illness;

-other medication taken in the last 24 hours;

-if the casualty has an allergy to the medication or any other medication;

-if the casualty has taken this specific medication before and, if so, did it have the required effect;

-what the possible side effects of the medication are;

-any precautions or special instructions for administration, i.e. not to be taken with alcohol, not to be taken with food;

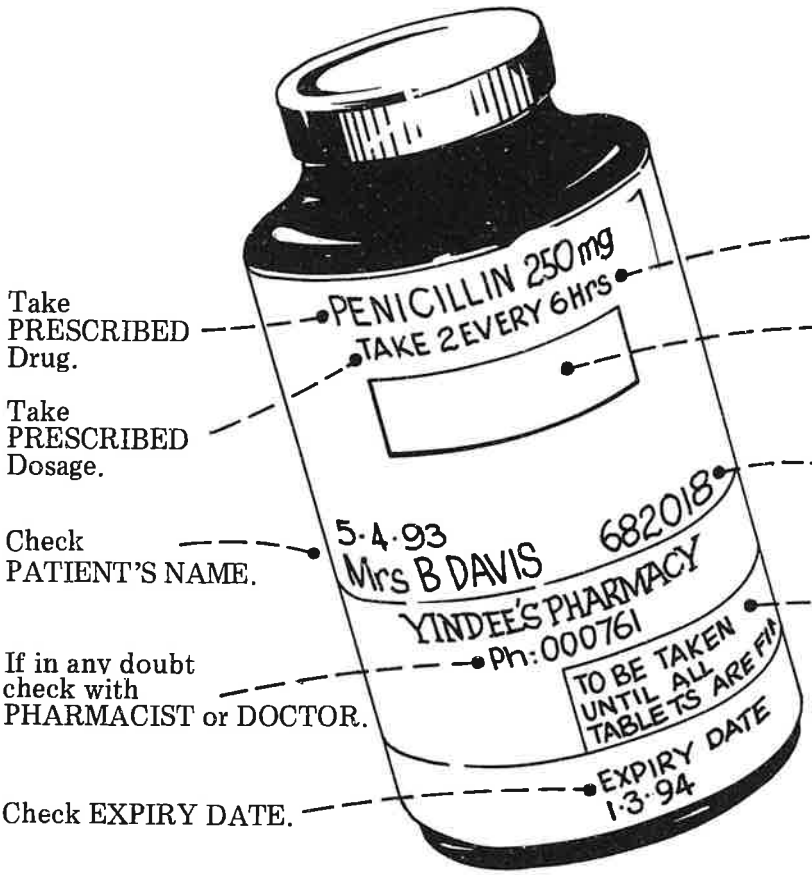
-possible interaction with other medications taken.

If the medication is the patient's own, the 'Five Rights' must be checked.

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.



The pharmacist on dispensing the medication will label the container clearly to State Regulations.

THE LABEL WILL SHOW:-

1. Name of medicine.
2. Dose and directions for use.
3. Patient's name.
4. Date.
5. Prescription number.
6. Special directions.

SOME EXAMPLES

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

Fig. 1 The Five Rights.

After medication has been given the St John member should:

-record time, date and dose of medication given with casualty's/patient's details;

-check for any side effects; notify prescribing physician if present for further instructions;

-check how long medication is to be continued.

Administration of Medications

Refer to Skills 11-17 in Skills Booklet of *Family Care at Home.*

Assessment

Complete Skills 11, 12, 14, 15, 16, 17 as per checklists in Skills Booklet of *Family Care at Home.*

Skills Mastered

	Satisfactory	Fail	Re-test
EXAMINER Please tick	❒	❒	❒

Please sign and print name:

Signed:.....Date...../...../1994.

Name:.....Position:.....

Qualification: (Please tick where appropriate)

Doctor.....Registered Nurse.....Ambulance Officer.....

Training Branch Accredited Instructor:.....

Operations Branch Member (approved by District Surgeon):.....

Poisons and Poisoning

PRESCRIBED REFERENCE: Supplementary Training Material.

OBJECTIVE: **8.1** Having studied this segment and discussed the topic with others, the St John member will be prepared to give emergency care for the victims of acute poisoning by drugs, gases or venom.

Supplementary Training Material

Definition of Poison

A poison is any substance that may cause harm to the body. A substance may be a poison if taken into the body by one route but not another, e.g. milk is harmless taken by mouth, but poisonous if injected into the veins.

Classification of Poisons

Poisons can be classified in several ways:

1. By route of entry into the body:

-inhaled into the lungs - usually poisonous gases;

-ingested, i.e. swallowed; these can be corrosive or non-corrosive poisons;

-injected (a) by needle into veins, muscles or subcutaneous tissue;

(b) by insect or animal bite;

-absorbed into the body after being in contact with the skin or taken under the tongue.

2. By physical form:

-solid;

-liquid;

-gas.

3. By effect on the body:

-poisons may be **long-acting or short-acting**, e.g. arsenic stays in the body for months; most poisonous gases clear from the bloodstream after several minutes;

-poisons might be **centrally or locally** acting: snake venom affects the whole body; a mosquito bite only affects the area immediately around the bite;

-poisons may act quickly or slowly; heroin causes symptoms immediately it is injected into a vein; a person who swallows weed-killer may have no symptoms at all for several days.

4. By how it is administered:

-**accidental** ingestion of a poison occurs when the poison is in an unmarked or wrongly labelled container, or when the person does not realise the material is poisonous;

-**deliberate** administration of a poison may be suicidal or murderous;

-**negligence** may cause poisoning at home or at work;

-the poison might be administered as a **criminal** act, or it might involve a breach of regulation.

The first aider involved in the care of a victim of poisoning must be particularly observant to assist investigations by medical staff or the police. After the patient is safe, the first aider should, if possible:

-collect samples of any vomitus or urine passed by the patient at the scene; use gloves;

-observe the position of the patient, presence of any bottles of medication etc., before the scene is disturbed by other emergency personnel.

Poisoning

1. General principles

-avoid contamination of the first aider;

-identify the poison

- •collect evidence from the scene, if directed to do so;
- •take history from bystanders;

-remove the poison from the patient, or the patient from the poison;

-seek medical aid;

-contact Poisons Information Centre - have the number recorded in your kit or diary for ready access.

2. Poisoning by toxic gases

How it happens

There are many toxic gases, including carbon monoxide, fumes from petrol and fumes from caustic and cleaning solutions, e.g. bleach.

Toxic gases may be inhaled:
At home - using chemicals, paint, glue or bleach in small, unventilated rooms, e.g. toilet, shower, darkroom, shed (carbon monoxide poisoning from faulty car exhaust).
At work - industrial fumes, fumes in tanks and vats; dust from bags of cement and lime is also dangerous.
On the farm - inhaling pesticides and weed killers.

Symptoms and signs

-stinging eyes and blurred vision;

-runny nose;

-sore mouth, dry mouth;

-cough, breathing difficulties, tightness in chest;

-vomiting;

-drowsiness, unconsciousness;

-salivation.

Possible long-term effects

The patient who has inhaled toxic gases may have long-term lung complaints - like the World War I soldiers who were gassed. The patient may also suffer permanent nerve or brain damage.

Prevention

-make sure that chemicals are stored correctly;

-make sure that there is proper ventilation wherever chemicals are used;

-make sure of safe handling practices;

-make sure that any leaks in car exhaust systems are checked;

-if you think you smell gas, don't investigate on your own;

-call for help before rescuing a patient overcome by gas; if gas is still leaking, await specialised help, unless the gas can be turned off and dispersed.

Treatment

-remove the patient **if it is safe to do so;**

-D.R.A.B.C.;

-stop any bystander from smoking; extinguish any naked flame;

-seek urgent medical aid.

3. Ingestion of corrosive materials

Corrosive materials are materials which burn the flesh, mainly acidic or alkaline substances. They include bleach (acid), dishwasher powder (caustic) and batteries from calculators (contain caustic soda which may leak out). Petrol based products are included in this group because they burn the flesh and the mouth but also irritate and inflame the lungs if the fumes are inhaled.

How it happens

At home: Children will swallow these substances accidentally, especially dishwasher powder. Bleach and other household chemicals may be put into unlabelled containers, or old lemonade bottles. Adults may swallow acid or caustic liquids in a deliberate suicide attempt.
In the garage: Petrol and kerosene may be swallowed while being siphoned from one container to another. NEVER DO THIS. Use a funnel, or a proper siphon.
At work: Many industrial chemicals are powerful corrosives.

Symptoms and signs include:

-burning and stinging of eyes (from the fumes);

-burns around the mouth;

-severe pain in the mouth, mouth ulcers;

-difficulty swallowing and/or breathing;

-nausea and vomiting.

Long-term effects

The corrosive substance burns the sensitive mucous membranes of the mouth, oesophagus and trachea. These burns may cause severe scarring, with permanent difficulty in swallowing, breathing, and talking. The substance may burn a hole between the patient's trachea and oesophagus, causing severe long-term problems.

Prevention

-keep all household chemicals out of reach of children;

-always label every container clearly;

-always use a proper siphon for siphoning petrol.

Treatment

-D.R.A.B.C.;

-wash corrosive substance off mouth and face with water;

-do **NOT** make the person vomit or give water, milk or anything else;

-seek urgent medical aid;

-contact Poisons Information Centre and follow their instructions.

4. Ingestion of non-corrosive poisons

There is a huge range of non-corrosive poisons with a huge range of effects. Once again, the poison may be taken accidentally or deliberately.

How it happens

Children may swallow their parent's tablets or drink a whole bottle of their own medicine. Children can also swallow an amazing variety of household products - from hand-cream to antiseptics to rat poison.

Adults may accidentally take in a small amount of poison - the unusual taste soon alerts them that something is wrong.

Symptoms and signs

These are as varied as the poisons themselves. Most poisons cause mild vomiting and/or diarrhoea and no serious or life threatening problems. Some household products can be particularly dangerous, for example:

-rat poison - causes bleeding;

-weed killer - causes severe, even fatal, liver damage;

-iron tablets - an overdose of iron in children can be fatal.

Prevention

Every household should have a medicine cabinet, out of reach of children, with all medicines in it. Do not put chemicals in drink bottles.

When buying tablets off the supermarket shelf, choose foil wrapped products. Ask your chemist to put your tablets in child resistant containers. Camphor balls and napthalene flakes are poisonous.

Keep the garage and garden shed locked.

Remember that children can poison themselves at their grandparents' and next-door neighbours' houses just as readily as at their own home.

Treatment

-D.R.A.B.C.;

-call Poisons Information Centre and follow their advice;

-Syrup of Ipecac can be given to adults and children :

- **unless** they are drowsy;
- **unless** they have taken sedatives or sleeping tablets;
- **unless** they are under 6 months of age;
- **unless** they have taken a corrosive or petro-based product;

-Syrup of Ipecac causes vomiting, usually within 20 minutes;

-administer according to instructions on the bottle after checking the expiry date.

5. Poisons absorbed through the skin

Several medicines and poisons are absorbed through the skin. Toxic effects occur mainly when very large doses are rubbed on frequently e.g. some mosquito repellents are harmful to small children. Poisoning can also occur in an emergency; cyanide can be absorbed in a fatal dose if enough comes in contact with the skin.

Drugs and poisons can also be absorbed through the mucous membranes, the thin moist tissue lining the mouth and eyelids, e.g. Anginine heart tablets are put under the tongue where they dissolve and pass directly into the blood stream through the mucous membrane.

If you suspect that someone has poison on their skin, wash the skin thoroughly and observe them while you contact the Poison Information Centre.

6. Cyanide poisoning

Cyanide is an extremely toxic substance. It can be inhaled during a fire, swallowed or absorbed through the skin. First aiders who attempt to rescue or resuscitate a victim of cyanide poisoning may themselves be poisoned.

Treatment

-D.R.A.B.C.;

-remove contaminated clothing;

-wash contaminated skin, including mouth and lips;

-if E.A.R. is necessary, do not inhale the casualty's expired air.

-contact Poisons Information Centre and the nearest public hospital for further instructions;

-seek medical aid very urgently.

Practical Incidents

8.1 Ingestion of corrosive substance

Scenario

You are on duty at a school fete. A parent is brought to the first aid post, having swallowed petrol while siphoning it from his car a few minutes ago. He is coughing and complaining of feeling sick.

Checklist	Tick
History When did incident occur? How much petrol was swallowed?	
Prevent further damage Encourage him to spit out all petrol from his mouth. Wash petrol off casualty's face and hands. Reassure him by allowing him to sit and lie down quietly. Call for medical aid.	
Assessment D.R.A.B.C. Check airway for swelling - No; Check breathing for: •noisy breathing - No; •respiratory rate - 30; Check pulse - 100; Check skin colour and temperature - normal.	
Continually assess casualty and encourage him to take deep slow breaths until medical aid is available.	

Practical skill mastered

Signed:.....

Date:.....

8.2 Ingestion of non-corrosive substance

You receive a call at midnight from a friend who has just got home to find their flat-mate 'out cold' on the floor. He has left a suicide note and there are two empty pill bottles and half a bottle of whisky on the kitchen bench.
Your friend wants to know what to do.

Checklist	Tick
Dangers Is the casualty near any open flames, gas, broken glass etc.?	
Response Shake him; shout his name. No response.	
Airway Roll him onto his side. Check if the airway is clear. Look in his mouth for any tablets.	
Breathing Look, listen and feel for breathing.-Yes.	
Circulation Is there a pulse just below angle of the jaw?-Yes. Is there any blood?-No.	
Then, keep him on his side. Ring an ambulance. Ring me back.	
Your friend rings back: The ambulance will be 10 minutes.	
Advise Check that he is still breathing and has a pulse. Keeping your friend in sight at all times, in case he vomits, make sure all empty and full medicine bottles are in one place for the ambulance officers to take to hospital.	

Practical skill mastered

Signed:.....

Date:.....

Poisons: Topics for Discussion

Take a very careful look around your St John hall and vehicle, on a 'treasure hunt' for poisons.

Are all medicines, e.g. paracetamol, in a locked cupboard?

Are all disinfectants clearly labelled with type of chemical and strength?

Are all disinfectants locked away?

Are all cleaning agents in a high cupboard and clearly labelled?

Are all gas appliances working safely?

In the vehicle:

-Is fuel, e.g. petrol, oil, clearly labelled and kept entirely separate from first aid supplies?

-Is there a proper siphon hose and funnel for pouring petrol?

-Does the exhaust pipe have any holes in it?

Skills Mastered

	Satisfactory	Fail	Re-test
EXAMINER Please tick	❐	❐	❐

Please sign and print name:

Signed:.....Date...../...../1994.

Name:.....Position:.....

Qualification: (Please tick where appropriate)

Doctor.....Registered Nurse.....Ambulance Officer.....

Training Branch Accredited Instructor:.....

Operations Branch Member (approved by District Surgeon):.....

Drugs and Alcohol

Towards a Definition of Drugs and Drug Use

A drug can be considered to be any substance that, when taken into the body, causes some physical or mental change. The change may be pleasurable or unpleasurable, therapeutic or harmful, desired or undesired. Within this frame work, 'drugs' includes alcohol, aspirin, Ecstasy, prescription medication, heroin, water and smelling salts. This list includes a variety of different substances, some legal and some not, that are all taken by people for essentially the same reason - to produce some sort of change in their bodies or minds.

We have given 'drugs' a simple, tidy definition. What is not so easy to define, however, are the reasons for drug use. The very word itself is subject to interpretation according to one's own value system. How many of us automatically think of heroin when we hear the word 'drug'? Heroin is an illegal narcotic that is used by some people to alter their moods. Alcohol is a legal beverage that is also used by people to alter their own moods. Prescription medication such as Serepax, a tranquilliser, is sometimes misused by people for its mood altering effect. So here we have three very different drugs. Society prohibits the use of one, sanctions the use of another and is indifferent to the use of the third.

Before examining the issues surrounding drug use, perhaps it would be prudent to look at our own behaviour and attitudes towards drugs. How do you feel after that first cigarette in the morning? Why do we like strong coffee? Why do we take Panadol (paracetamol) for a headache which will probably go away anyway?

We all have a disposition towards some sort of drug use. For reasons that are not entirely clear, or precise, some members of our society are disposed to the misuse of chemicals that place them or others at risk of harm. The harm may come from the direct chemical action of the substance within the body, or it may be the result of behaviour caused by the effects of the chemical.

General

As with any first aid situation, the management of persons affected by drugs and/or alcohol is governed by our cardinal principles of:

Dangers
Response
Airway
Breathing
Circulation

All patients who are unconscious or who are liable to become unconscious, for example through intoxication, must be managed on their sides.

Alcohol

Beverage alcohol is manufactured by the fermentation of different plant products such as hops and grapes. It is freely available commercially and its use is surrounded by many cultural, social and religious influences.

Contrary to popular opinion, alcohol is a depressant not a stimulant. It does have an early stimulating effect which leads to jocularity and a release of inhibitions. With continued consumption, this soon gives way to its depressant actions which we as first aiders must be particularly aware of. Continued use will cause the person to pass through all the stages of general anaesthesia and may culminate in death through the depression of respiration.

It is important to remember that "different amounts of alcohol affect different individuals differently" and that there is no bench-mark for intoxication. Whilst breathalyser readings may be useful for legislative purposes they are of little value in the medical arena. Many textbooks list a blood alcohol level of around 5.0 grams per cent (100 times the legal driving limit) as fatal yet this author has seen a person with a blood alcohol level of 5.5 grams per cent walking and talking.

The effects of a quantity of alcohol upon an individual are contingent on many factors including type of beverage, quantity, frequency of use and the individual's own ability to metabolise the chemical. Vomiting is a frequent side effect of intoxication and we must be alert to this in protecting the patient's airway.

Heroin and other narcotics

'Narcotic' literally means to produce sleep. The naturally occurring narcotics such as heroin, morphine and codeine are derived from the opium poppy. Synthetic narcotics such as pethidine and methadone are manufactured chemicals.

The principal therapeutic functions of narcotics are to relieve pain, calm the patient and produce sedation (sleep). A secondary effect is a change in mood, noticeable euphoria, and it is for this reason that narcotics are frequently misused.

All narcotics have much the same action although in different degrees according to the substance. The most common narcotic used illicitly is heroin, a white powder that may be swallowed, snorted or injected in solution. Injection is the more common route of administration.

With narcotic use the patient may pass through stages of euphoria - calmness - semi-consciousness - unconsciousness - death. Narcotics have a profound effect in depressing respiration and all patients suspected of having an overdose of a narcotic should never be left alone. They should be given oxygen therapy and promptly referred to medical aid. Respiratory arrest should be anticipated and resuscitation equipment should be at hand. A side effect of narcotics is that they constrict the pupils of the eyes. Any patient who is acting oddly or has an altered conscious state **and** who has constricted pupils must be regarded as a narcotic overdose and managed accordingly.

Uppers

'Uppers' are drugs taken for the excitatory and mood-elevation effects. They include amphetamines, cocaine and such so-called 'designer drugs' as Ecstasy. They may be swallowed, snorted, injected or smoked.

Their use is characterised by excitation, exhilaration, over-stimulation, visual disturbances, other hallucinations and delusions. Objective signs include an increase in pulse and respiration, sweats and odd behaviour. These effects are usually transitory; however, high-dose or long term use of 'uppers' may produce an increase in these symptoms and 'flashbacks'. Flashbacks are inexplicable experiences of hallucinations and delusions that may occur some considerable time after the drug use.

Specific management of a person who has used 'uppers' includes risk management (see below), observations and routine care according to presentation.

Downers

'Downers' have a depressant effect on the body with calming of mood. They include barbiturates, sedatives and tranquillisers. They are usually swallowed as tablets or powder but may occasionally be injected.

The principal danger of 'downers' is that they depress all body functions including consciousness, heart rate and respiration. They do not constrict pupils. Specific management of a person suspected of having used 'downers' includes risk management, observation, airway management and oxygen therapy. Resuscitation equipment should be at hand and medical aid sought promptly.

All Arounders

This classification is useful for those drugs which are used for a variety of effects, typically alcohol (see above), L.S.D. and marijuana. Marijuana, hashish and hashish oil are obtained from the plant *Cannabis sativa,* the principal ingredient of which is the chemical THC. The possession of cannabis remains illegal despite a strong lobby seeking to decriminalise its use.

Although usually classified as an hallucinogen, marijuana has a range of effects including calming, mood elevation, excitation and hallucinations. Most of its adverse effects would appear to be from behaviour caused by its use, rather than from chemical effects on the body. Specific management includes risk management, observations and routine care as appropriate.

Risk Management

As with the emotionally disturbed, patients who are under the influence of drugs or alcohol may be at risk of harming themselves or others through dangerous or violent behaviour. The patient should be reassured and quietly removed to safety. If this is not possible, objects that could be used as weapons or missiles should be removed from the patient's vicinity. Bystanders should be discreetly directed away from the scene.

Remember that we have a responsibility (at law) to protect our patients from reasonably foreseeable harm. Nurse them on the floor or low stretchers - it is not as far to fall, should that calamity befall them.

If you do not feel safe with the situation - do not approach. Call for expert assistance from the ambulance service and police.

Summary of Care

1. Dangers - risk management.
2. Response - what is their level of consciousness?
3. Airway - be mindful of vomiting.
4. Breathing - consider oxygen therapy and resuscitation equipment.
5. Circulation - treat shock. C.P.R. if necessary.
6. History - what have they taken or used?
7. Frequent observations, including conscious state.
8. Transfer - preferably by ambulance.

Discussion

In small groups write down all the words you can think of that relate to alcohol or drug use.

Talk about these words in the group:

- What sort of feelings do they evoke?

Discuss these feelings with the other members if you feel comfortable to do so.

- Would these feelings influence your attitude to the patient?

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Traumatic Event Management

All of us face issues in our everyday life that require us to make choices and decisions. This process involves a degree of feeling that is often labelled as stress. In this module, discussion of stress will entail its definition, causes and management in both day-to-day routine and when facing specific incidents that evoke a certain type of stress reaction.

Definitions and Strategies

The word 'stress' tends to conjure up a negative image as something that is undesirable and to be avoided. This, however, is denying us a way of seeing what stress can do to improve a situation. Stress is simply a **response** to something in the environment. The way you **perceive and interpret** the environment dictates whether you perceive stress as good or bad.

The positive nature of stress has been called **eustress;** it helps us to be creative and productive, to make decisions necessary to change and improve our lives. Without this type of stress our quality of life would remain static.

The other side of stress is called **distress**. It is the negative element of stress because it has the potential to overwhelm. It is important to realise that everyone perceives stress differently and that what may be stressful to one person may not be at all to someone else, **and that's O.K.**

First steps in managing a problem

A simple procedure to follow that often goes a long way towards solving a problem runs like this:

-clearly **define** the problem;

-identify **all** possible solutions, no matter how weird they sound at first;

-pick one of those solutions;

-put it into action;

-assess the problem in the light of that action to see if the difficulty has been resolved;

-if the situation hasn't changed, be realistic: realise that another solution is called for; choose another one and put it into action.

Repeat this as often as necessary.

Cumulative Stress

Cumulative stress is defined by Mitchell (1990) as the build-up of a variety of stresses over a period of time. They may be work and non-work related, perhaps encompassing family/marital problems, financial difficulties, or left over stresses from one's childhood, culminating in a reaction after weeks, months, or even years. It may be hard to define the exact nature of the problem, with thoughts of there being more than one element that requires action.

When this is the case, make a list of all the different problems and cross them off as they are resolved. Ask yourself: "What can I do now with each one?". Be sure to take small, manageable chunks at a time.

Remember:

-You **always** have options. There are always choices to be made. Actively seek these; write them down if it helps.

-Be in charge! Take control over that which affects you.

-Be honest! In the long run, you serve only to disappoint yourself if you do not truthfully appraise the situation.

-Pamper yourself with small rewards when you deserve them.

-Don't stonewall! It's the old adage: don't put off till tomorrow what you can do today.

Critical Incident Stress

As St John members we sometimes face situations that are out of the ordinary, that is, situations not faced by the members of the public. We have volunteered to take on a responsibility to help the public in times of need. It takes a certain type of person to do the work we do, giving us characteristics that differ to the ordinary person on the street. (When speaking of emergency responders, it is to be realised that there is no difference between paid and volunteer professionals in our sense of commitment to the task and subsequent emotional reactions).

Research has shown, for example, that emergency service members are more interested in detail. We tend to be perfectionists, with extremely high standards and expectations. Emergency personnel are action oriented and can become easily bored. Many of us have experienced the frustration of being unable to utilise our skills to help others. This frustration is born of the dedication that many of us feel towards the type of work we have taken on.

While many of these characteristics are admirable and sought after in an emergency responder, they can cause the member to experience difficulties unique to our profession.

The concept of Critical Incident Stress was formulated by Jeffrey Mitchell, an American psychologist and firefighter/paramedic. He defines it as "any situation faced by emergency service personnel that causes them to experience unusually strong emotional reactions which have the potential to interfere with their ability to function either at the scene or later" (Mitchell 1983).

These are powerful, potentially distressing events because of that above-mentioned risk of overwhelming the individual.

Some examples of critical incidents are:

-injury or death of a fellow member in the course of duty;
-incidents involving children;
-a particularly graphic or gory incident;
-incidents where there is heavy media interest;
-prolonged incidents ending with a loss;
-being unable to assist a casualty due to dangers;
-mass casualty incidents.

After facing a critical incident, about 85 per cent of emergency workers experience some sort of reaction. This gives you an idea of just how normal such reactions are.

Some of the physical reactions you may remember going through or may experience in the future are:

-nausea;
-tremors (lips, hands);
-chills;
-rapid heart-beat/breathing;
-headaches;
-sleep disturbances.

Emotional reactions can also be experienced. Some of these include:

-anxiety;
-guilt;
-depression;
-irritability;
-feeling numb;
-feeling isolated.

A third area that has an effect is the thinking or cognitive response. You might find:

-slowed thinking;
-confusion;
-difficulty concentrating;
-memory problems;
-poor attention span.

Collectively, these physical, emotional and cognitive reactions are called **acute stress** reactions and are perfectly normal after a critical incident.

Managing critical incident stress

Probably the best measure to take in order to avoid the long-term reactions is pre-incident education. Learning the typical signs and symptoms of stress goes a long way toward mitigating the reaction in the future.

The most important thing you can remember is that:
Normal people have normal reactions to abnormal events.

Recognise that reactions are to be expected after a traumatic incident. However, it is just as important to realise that **everyone reacts differently** and that if you or your team members don't react the same way, that's fine. You are no stronger or weaker for that fact. Again, what one person considers a critical incident, another will not.

Take due regard of standard operating procedures, particularly regarding cadets and those who might be more vulnerable to Critical Incident Stress owing to other facts such as stressors at home or work.

Look after yourself! We are all too ready to go out and help strangers. Be there to support your own too. If you are feeling uncomfortable about any particular incident, contact a friend or senior member and let him/her know you want support and need time and attention. At the same time, be there for your team members or friends when they require support. One of the best indicators that something is amiss is the **change** in the individual. The first step, and often the best medicine, is simply being prepared to **listen**.

And, of course, don't be afraid to seek professional advice if needed. Doing so quickly will help alleviate the immediate distress and prevent long-term adverse effects. There is a procedure now for contacting a St John Ambulance Mental Health Professional through Headquarters. This procedure should be known by all senior divisional officers.

Delayed stress reactions are also normal and can occur days, months or even years after the incident. You may not associate the symptoms with the particular event and time may distort the typical symptoms. These reactions are similar to the acute phase post-incident and may include:

-sense of loss;
-flashbacks;
-feeling unappreciated;
-appetite changes;
-isolation and withdrawal;
-greater reliance on alcohol or other drugs (known as 'false cures' because they may provide temporary relief but do nothing to alter the source of the stress);
-fatigue.

Post Traumatic Stress Disorder (P.T.S.D.)

This is a type of reaction that is considered abnormal and must be attended to by a qualified mental health professional. It is "the development of characteristic symptoms following a psychologically traumatic event that is generally outside the range of usual human experiences...the stressor producing this syndrome would evoke significant symptoms of distress in most people and is generally outside the range of such common experiences as simple bereavement, chronic illness, business losses, or marital conflict" (American Psychiatric Association). It usually develops in individuals who won't work through their emotions and who avoid preventive strategies. It is sometimes seen after a particularly horrific event. About 4 per cent of emergency personnel experience P.T.S.D. after an incident.

Discussion

It is important for each member to know his/her own coping strategies. Go over these in detail. Write them down. What do you do to relax and unwind? What have you done in the past after a particularly heavy duty that has/hasn't helped? What have you seen others do that has/hasn't helped? Talk about your own good and false cures.

What resources are available in your area for other types of counselling; for example: marriage counselling, drug and alcohol, financial assistance? How could you find out quickly where to refer people?

What would you do if you noticed your friend being uncharacteristically quiet or loud? How would you approach this friend with offers of assistance?

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MODULE 11

Lifting and Carrying Casualties

PRESCRIBED REFERENCE: *Australian First Aid.* Vol. 2, 1989.

OBJECTIVE: **11.1** On completion of the training period and after practising the practical skills listed below (to the satisfactory performance level as per the module checklists), the St John member will be able to demonstrate the correct methods of lifting and moving casualties in different scenarios.

Practical Skills

11.1	Prepare a stretcher.
11.2	Lift and position a casualty onto a stretcher using the fore and aft method.
11.3	Lift a casualty onto a stretcher using a Jordon lifting frame.
11.4	Secure a casualty to a stretcher or Jordon lifting frame.
11.5	Perform a fore and aft chair lift - two persons.
11.6	Transport a casualty on a stretcher.
11.7	Lift a casualty using a flat lift (horizontal).
11.8	Use the pick-a-back method to lift a casualty.
11.9	Use the cradle lift method to move a casualty.
11.10	Apply the lift and drag method to move a casualty.
11.11	Use the human crutch method to move a casualty.
11.12	Perform a blanket lift.
11.13	Perform a two-handed seat lift.
11.14	Perform a three-handed seat lift.
11.15	Perform a four-handed seat lift.

Why Lift a Casualty?

In general a casualty is not moved if an ambulance will be present to assess the casualty within 15-30 minutes. But it is often necessary to:

-remove the casualty from danger;

-move the casualty to the site of definitive care.

Indications:

-where the injury or illness prevents the casualty moving for himself/herself;

-where the casualty moving instead of being lifted may worsen the condition;

-where a background chronic condition normally restricts casualty movement.

Obviously a casualty with a lower limb fracture should have fixation and elevation continued while you move them on to the stretcher. Generally your initial assessment and management of an injury before moving will dictate the need to carry the casualty and the appropriate type of carry.

However, some more thought is required when considering the overall condition of the casualty. Any effort on the part of the casualty will increase the cardiac and respiratory requirements. Any walking will entail an upright stance. So any casualty with an illness or injury having any possibility of respiratory, cardiac, conscious level or sense of balance symptoms occurring must not be allowed to walk - even a short distance. Even if the casualty does not collapse when stood up, your clinical observations taken when the casualty resumes a position of rest on the stretcher will almost certainly show an increase in heart rate/respiration rate. Can you accept that clinical deterioration as part of your management?

Thus we are compelled to lift all casualties with more than minor haemorrhage, all casualties with any respiratory problems, all casualties with any cardio-vascular problems and all casualties with any disturbance of conscious state. This list, of course, includes casualties who may develop the shock syndrome from any cause, physical or emotional.

It is important to remember that if, before or during the lift, the casualty does not feel confident and secure, he/she may become apprehensive and tense, and hence cardiac and respiratory requirements will increase. The whole purpose of lifting may be defeated. Repeated reassurance to the conscious casualty is required before, during and after transfer.

Principles Applied in Kinetics of Lifting

1. Keep back straight.
2. Bend knees and hips.
3. Lift as close as possible to the weight.
4. Lift with arms straight.
5. Lift with a smooth even movement.
6. Place feet in direction of movement.
7. Keep feet straight and apart.
8. Avoid twisting spine.
9. Hold weight securely.

Lifting: Do's and Don'ts:

Do	Don't
(a) Do lift by bending your hips and knees while keeping your spine straight.	(a) Don't lift with a curved spine; this may strain your back.
(b) Do lift with your feet straight and one foot forward.	(b) Don't lift with your feet turned out.
(c) Do place your feet in the direction of the movement which is to follow the lift.	(c) Don't lift until your feet are in the correct position for the movement which is to follow the lift. Avoid carrying with the torso twisted on the pelvis. This will not always be possible in passages or on narrow staircases and/or other tight places but great care should be taken to avoid sudden twists.
(d) Do lift with short leverage; in other words, get as near to the weight as possible.	(d) Don't lift with a long leverage; it increases the strain on you and you may lose your balance.
(e) Do hold securely using the fingers as a hook.	(e) Don't grip by fiercely clenching the fist.
(f) Do bend your knees and lift with the arms straight. Carry also with the arms straight.	(f) Don't lift by bending your back.
(g) Do make smooth movements and continue to breathe easily.	(g) Don't make sudden or jerking movements; that is the way to make the muscles tense and liable to injury.
(h) Use a command to time the lift; Leader commands - Prepare to lift ; Leader commands - Prepare to lower.	
(i) Prepare environment for lift e.g. clear pathway.	

11.1 Prepare a stretcher

Checklist	Tick
Unfold stretcher (if applicable). Inspect and then test all support structures for tightness. Lie on the stretcher yourself to test for its stability. Blanket the stretcher using one or two blankets as per the diagram in *A.F.A., Vol. 2, 1989, pp. 85-87.*	

Practical skill mastered

Signed: .....

Date:.....

11.2 Lift and position a casualty onto a stretcher using the fore and aft method

Reference: *A.F.A., Vol. 2, 1989, p. 87.*

Checklist	Tick
Explanation to casualty Reassure casualty. Cover casualty with blanket.	
Prepare stretcher Position close to casualty. Correct height.	
Prepare to lift Member A behind casualty: - sit casualty up; - support casualty from behind; - reach under casualty's arms, grasp forearm and place across chest. Member B adjacent to casualty's thigh: - grasp under casualty's knees and small of back; - squat in preparation to lift.	
Lift casualty Member A takes weight. Both lift together slowly. Use correct lifting technique.	
Carry casualty to stretcher Avoid hazards.	
Place casualty on stretcher Members lower together slowly. Leader: "Prepare to lower - Lower".	
Position casualty Position casualty appropriate to condition and comfort.	

Practical skill mastered

Signed:.....

Date:.....

11.3 Lift a casualty onto a stretcher using a Jordon lifting frame

Checklist	Tick
Explain to casualty what you are going to do.	
Position casualty. Casualty's arm should be placed alongside of body. Legs together.	
Position frame Place frame to encircle casualty. Top lug in line with casualty's ear.	
Position and secure gliders Position broad glider at top of frame. Secure glider to frame. Adjust tension as required. All glider single holes to be secured on one side.	
Prepare stretcher Position close to casualty.	
Lift casualty on frame Members squat at each end of frame. Co-ordinated lift. Correct lifting technique.	
Load frame on stretcher Lower frame to stretcher. Ensure frame is positioned. Cover casualty with blanket.	

Practical skill mastered

Signed: .....

Date:.....

11.4 Secure a casualty to a stretcher or Jordon lifting frame

Checklist	Tick
Explain procedure to casualty. Join two broad bandages together with a reef knot; make four of these double bandages.	
Tie the casualty to the stretcher with bandages at the level of shoulders, hips, mid-thigh, calves.	
Tie the bandages at the side of the stretcher with reef knots.	
Check that the bandages are: -firm enough to prevent the casualty slipping; -not so tight as to be uncomfortable; -not tied over injuries.	

Practical skill mastered

Signed: .....

Date:.....

11.5 Perform a fore and aft chair lift-two persons

Reference: *A.F.A., Vol. 2, 1989, p. 82.*

Checklist	Tick
Prepare equipment - chair Select a strong chair.	
Explain to casualty what is going to happen Casualty instructed not to help.	
Assist casualty to chair Position casualty on chair.	
Prepare to lift Using commands: "Prepare to lift - Lift". Member A behind chair: -grasp the back of chair and tilt back. Member B in front of chair with back to casualty. -kneel to grasp front legs of chair; -casualty's legs to either side.	
Lift casualty Both members lift together. Use correct lifting technique.	

Practical skill mastered

Signed: .....

Date:.....

11.6 Transport a casualty on a stretcher

Reference: *A.F.A., Vol. 2,1989, pp. 70-77.*

Checklist	Tick
Explain procedure to the casualty. Make sure that the casualty is secure, comfortable and warm. Ask a bystander to run ahead and clear the way, e.g. opening gates. Kneel beside the stretcher poles, get a firm grip on the stretcher, and make sure that all stretcher bearers stand up at the same time; leader gives commands: "Prepare to lift - Lift". Stand up and make sure that you are comfortable with the weight you are carrying before moving off. For two stretcher bearers: -move off out of step, but at the same pace. For three stretcher bearers: -the two end bearers start off on the inside leg. For four stretcher bearers: -move off from the inside leg first, at the same pace; -if possible, another first aider or even a relative of the casualty should walk beside the stretcher to reassure the casualty.	

Practical skill mastered

Signed: .....

Date:.....

11.7 Flat lift (horizontal)

Checklist	Tick
Prepare casualty Explain procedure (if conscious). Maintain casualty's modesty.	
Position casualty Lying flat on back; support limbs (if required). Member A: Position at head: -level with shoulder, one arm under casualty's neck; -one arm under casualty's back; -conscious casualty holds onto first aider's shoulder by gripping own hand. Member B: Position at hips: -same side as A; -one arm alongside A in arch of casualty's back; -one arm under casualty's thighs.	
Lift: -both first aiders together; leader gives commands; -high onto first aiders' chests with arms bent; -casualty may hold onto A; -first aider at head end observe casualty.	

Practical skill mastered

Signed: .....

Date:.....

11.8 Use the pick-a-back method to lift a casualty

Reference: *A.F.A., Vol. 2, 1989, p. 74.*
Practical skill mastered

Signed:.....

Date:.....

11.9 Use the cradle lift method to move a casualty

Reference: *A.F.A. Vol. 2, 1989, pp. 71-72.*
Practical skill mastered

Signed:.....

Date:.....

11.10 Apply the lift and drag method to move a casualty

Reference: *A.F.A., Vol. 2, 1989, p. 76.*
Practical skill mastered

Signed: .....

Date:.....

11.11 Use the human crutch method to move a casualty

Reference: *A.F.A., Vol. 2, 1989, p.76.*
Practical skill mastered

Signed:.....

Date:.....

11.12 Perform a blanket lift

Reference: *A.F.A., Vol. 2, 1989, p. 88.*
Practical skill mastered

Signed:.....

Date:.....

11.13 Perform a two-handed seat lift

Reference: *A.F.A., Vol. 2, 1989, pp. 80-81.*
Practical skill mastered

Signed:.....

Date:.....

11.14 Perform a three-handed seat lift

Reference: *A.F.A., Vol. 2, 1989, pp. 79-80.*
Practical skill mastered

Signed:.....

Date:.....

11.15 Perform a four-handed seat lift

Reference: *A.F.A., Vol. 2, 1989, pp. 77-78.*
Practical skill mastered

Signed:.....

Date:.....

Skills Mastered

	Satisfactory	Fail	Re-test
EXAMINER Please tick	❒	❒	❒

Please sign and print name:

Signed:.....Date...../...../1994.

Name:.....Position:.....

Qualification: (Please tick where appropriate)

Doctor.....Registered Nurse.....Ambulance Officer.....

Training Branch Accredited Instructor:.....

Operations Branch Member (approved by District Surgeon):.....

The following section is for information only. It is not required as part of the Skills Maintenance Programme for efficiency purposes.

Stretcher Drill

Introduction

In general a casualty should be moved only when there is some gain of safety, care, privacy or comfort to be achieved by the move. If this is not so, it is better to wait for wheeled transport, preferably from the professional ambulance service, if it is thought their service will eventually be needed for disposal of the casualty. However, stretcher drill can be a useful form of training for a limited range of situations.

Australian First Aid, Volume Two, pages 84-93, deals with the use of stretchers and the comments here will only add explanation or amplification to that book.

Training should be carried out with sized squads. The aim is to make your movements with a casualty and stretcher automatic relative to the position you occupy with the squad at that time. Some of the techniques may be transferable to an actual emergency situation.

Squads should practice verbal 'job break down' so that their instructions will be clear, concise and complete. All members should act as a casualty and be carried with 2 and 4 bearers, both in and out of correct step, to reinforce the need for this. If bearers find they are not in correct step, they should halt and restart in correct step. Do not attempt to change step on the move.

Some of this training should be while wearing haversacks and uniform head-dress. Remarks here relate to the Furley (or similar) stretcher but principles apply to all. Movement will be "Quick Time" or at the "Double", except when carrying a casualty.

The loaded stretcher should be carried with a relaxed step, with knees slightly bent and the foot coming flat to the ground, thus reducing jar and the swing of the stretcher.

When using a closed stretcher, bearers will always turn right about but, in the case of an open stretcher, bearers will always turn away from the stretcher. This will mean that some of the bearers will turn left about while others turn right about at the same time.

When a squad is formed, No.1 is accepted as leader but whoever is the leading bearer should keep those at the rear aware of any problems of loose or rough ground. The rear bearers should be aware all through the carry of the apparent condition of the casualty and call for a physical check should this appear to change.

Never carry to the point of exhaustion; call for a halt and rest if needed. The unbalanced weight and compensating lean out of the trunk create a great strain. Both are to some extent minimised by regular changes of bearers and the position they occupy on the carry.

Whether carrying by two or four, if four are available, all should be used to lift the stretcher to the carrying position. If there is discrepancy in the height of the bearers, the problems this raises are minimised with a two person carry. Stretcher slings should be used wherever possible for a two person carry.

Testing a Stretcher

A stretcher should be tested in the manner it will be used, that is to lift a person, preferably the largest of the squad. The bearers should face inward when lifting to test and should 'jiggle' to test the locking of the traverse bars.

Borrow a spanner if necessary to tighten bolts. In an emergency, loose traverse bars may be secured with a length of firm bandage. Any stretcher found unserviceable/faulty should immediately be prominently labelled as such and its repair should be followed up. Particular care should be taken when testing improvised stretchers. A dusty stretcher should be cleaned. Blankets should be inspected, particularly the blanket you have selected as your lifting blanket.

To Open and Close a Stretcher

To open -The stretcher should be rested on its runners and, with a person each end facing inwards, the retaining straps are unbuckled. If these are not attached, they should be placed in your pocket.

Standing up and facing inwards with a handle in each hand, pull the poles apart, opening up the bed. Release one handle so that the stretcher bed is vertical with one side on or near the ground, with the traverse bars toward you.

Move centrally beside these bars and use the heel of the shoe to kick the bars open until they lock. Test this locking by pushing the poles back and forth. Never use your hands to open or close traverse bars.

To close - With persons at the ends of stretcher, each grasps a handle and stands the stretcher on its side, bed vertical.

Facing outward, kick in the traverse bars. Lifting the stretcher and grasping both poles, bring poles together, with folded bars in line with stretcher, ensuring the canvas bed is not caught between the bars. Rest stretcher on its runners. Pick up centre of canvas, stretching it straight. With two or three 'concertina' folds, lay canvas flat on top of poles. Replace straps to retain the canvas, poles and traverse bars firmly together.

Replace stretcher in a safe and accessible position.

Forming of Sized Stretcher Squads

"Squad-Tallest on the Right, Shortest on the Left in Single Rank - SIZE" On this command, the squad will fall in, with the tallest moving to the right and the shortest to the left. Check the sizing, with the members standing at attention without interval.

"From the right-at half pace intervals-EXTEND".
All except the person on the left flank:

-bend the left arm;

-place the closed fist on the left hip;

-turn the head and eyes to the right (except the right flank person);

-and move with short paces to the left until the right arm is just touched by the elbow of the person on the right.

"By Fours-NUMBER" On this command, all will number from the right to the left calling 1-2-3-4, 1-2-3-4, down the line, with each person dropping the hand smartly to the side and turning the head and eyes to the front as the number is called.

The forming of the stretcher squads is completed by carrying out the following movements:
"Numbers 3 and 4 Bearers -Three paces Step Back - MARCH"
"To Cover-Right Close-MARCH" (move by side paces to cover numbers 1 and 2).

If it is intended to exercise as 3 person squads, the number 3 can be fallen out to act as the casualty. If exercising as 2 person squads, the order would be **"By twos-NUMBER"** and the call would be 1-2, 1-2, down the line, with, on order, Number 2s stepping back and covering.

"By Squads-NUMBER" On this command, the Number 1 bearer of the right hand squad will call out in a clear voice, 'Number 1 Squad'. The remainder of the Number 1 bearers will call out, '2, 3, 4', etc., and so on along the line until the last Number 1 bearer, who will call, 'Number-Squad'. This will indicate the last stretcher squad of the line of squads.

Collecting Blankets and Stretchers

When the stretcher squads have been formed, the bearers are detailed to collect blankets and stretchers. In the case of four bearers, the command is **"Number 3 Collect Blankets, Number 4 Collect-STRETCHERS. Numbers 3 and 4-Right-TURN, Quick MARCH".** For three bearers, Number 2 bearer collects the blankets while Number 3 bearer collects the stretcher. For two bearers, Number 1 bearer collects blankets while Number 2 bearer collects the stretcher.

Following the command to collect blankets and stretchers, the bearers will march off together, following one another around and collect the blankets and stretchers. Keeping in the same order, they return to their places from the other end of the squad, thus making a complete circuit with no halting or turning.

The blankets will be neatly folded and carried over the left arm. Blankets should not be placed on the ground. The stretcher will be carried at the slope on the right shoulder with the runners to the front and held in position by the right hand.

On the arrival at their places, all turn to the front together, on a command given by the last bearer of the last squad. The stretcher is placed on the ground, sliding it forward from the shoulder, while advancing the left foot. The runners are to the right and the ends of the stretcher are in line with the toes of the front bearers and the heels of the rear bearers. The left foot is returned to attention and the heels are in line with the end of the stretcher.

Returning Blankets and Stretchers

At the conclusion of the exercises, on the command **"Number 3 Return Blankets, Number 4 Return Stretchers. Number 4 Slope-STRETCHER, Numbers 3 and 4 Right-TURN, Quick-MARCH"**, the bearers will carry out the movements similar to those described in the collection stage.

When commanded **"Slope-STRETCHER"**, the bearer picks up the stretcher, advancing the left foot, grasping the stretcher in both hands near centre and while returning the left foot to attention, slides the stretcher towards him/her and places it on the right shoulder. When turning to the right, care should be taken to ensure that the stretcher is at the slope to ensure that an accident with the other bearers does not occur.

In the case of three and two bearer squads, the commands are similar, but using the appropriate numbers.

Changing Bearers

This will be practised as if with a loaded stretcher. Changing bearers is carried out to relieve bearers of their respective weight bearing responsibilities and duties.

Four Bearers: Numbers 1 and 3 bearers will turn right about. All bearers step off together with the left foot, Numbers 3 and 2 bearers wheeling around the ends of the stretcher and all moving around two positions clockwise. Each bearer will halt in the position of the bearer whose place he/she has taken. The new Numbers 1 and 3 bearers turn left about so that all again face the front or foot of the stretcher. A regulation pause is observed between all movements.

Similar principles apply for 3 and 2 bearers.

Where stretcher squads are formed and all exercises have been completed and blankets and stretchers have been returned, the squads are dismissed by giving the command **"Stretcher squads, Dis-MISS/Fall-OUT"**. The squads do not re-form a single rank but dismiss/fall out in the correct manner.

Stretcher Exercises with Prepared Stretchers

When the stretcher squads have been formed, collecting of casualties can be carried out in exercise form. On duty, when required to move to a casualty, the formation can be gained with the order **"Bearer Formation-FALL IN"**, whereupon the person ordering assumes Number 1 Position, Numbers 3 and 4 collect stores and all take their places.

The leader of the squad, the Number 1 bearer, commands **"Prepare to lift -Lift - STRETCHER"** and Numbers 2 and 4 bearers stoop together, grasp the handles of the stretcher with their right hands, knuckles to the right and thumbs alongside the forefinger. The runners of the stretcher should be away from the body. They rise together. On the command **"Collect-CASUALTY"**, the squad will move smartly to the casualty and place the stretcher near the head of the casualty whenever possible.

Loading the Casualty

The stretcher is prepared in accordance with the instructions in *Australian First Aid.* Check if there are hard objects in the pockets of the casualty which may cause discomfort and/or damage to tissue from localised pressure. If found, remove and replace carefully in another pocket. Ensure casualty's clothing is not bunched under him/her to cause localised pressure.

Each option here details a lift appropriate to specified numbers but this must in reality be dictated by the nature of injuries of the casualty, even to the side from which the lift is made. Others may be co-opted to ensure the best lift for the casualty.

Placing the casualty on the stretcher must be carried out with the minimum of inconvenience to the casualty, paying attention to injuries and the correct treatment. If four or more bearers are available, the blanket lift is the method preferred for loading a casualty on to a stretcher, owing to the smoothness of the whole operation.

If the casualty is not too heavy, this may be carried out by 3 persons with one rolling the blanket together from both sides of the legs. Note that when rolling the blanket lengthwise in preparation for a lift, the blanket should only be rolled to 15-18 cms short of half its width. In this manner the casualty will be lying approximately in the centre of the blanket. Blankets should be concertina folded on the edge of the stretcher. The lengthwise blanket should be folded while standing so a clean dry surface is ready for the casualty.

When a blanket is not available, the method of placing the patient on the stretcher could be as follows, when the command **"Load-STRETCHER"** is given. Orders are given as a drawn out word, for slow careful handling of casualty.

Four bearers

The right and left positioning may be reversed. Numbers 4, 3, and 2 bearers place themselves on the left of the casualty at the shoulders, hips and knees respectively, with the Number 1 bearer on the right, facing the Number 3 bearer. All bearers kneel on their left knees and place their forearms beneath the casualty.

Using the hook grip, Number 1 joins his/her left hand with the left hand of Number 4 and the right hand with the right hand of Number 3. Number 4 supports the head and shoulders and Number 2 the lower limbs.

On the command **"Prepare to lift-LIFT"**, the casualty is raised gently and slowly, and placed on the knees of Numbers 2, 3 and 4 bearers. Number 1 bearer disengages to place the stretcher under the casualty. Resuming position, the leader commands **"LOWER"** and the casualty is lowered on to the stretcher and positioned according to his/her injuries.

Three bearers

With the stretcher placed at the head of the casualty in line with his/her body, the Number 1 bearer kneels on his/her left knee on the injured side opposite the casualty's knees and places hands under the legs. Numbers 2 and 3 bearers kneel on their left knees on opposite sides of the casualty with Number 2 next to the Number 1 bearer and place their hands under the casualty's shoulders and hips, locking fingers by the hook grip.

On the command **"Prepare to lift-LIFT"**, the bearers rise to the erect position and move by side paces, carrying the casualty head foremost over the stretcher, the horizontal position of his/her body being maintained. On the commands **"HALT"** and **"LOWER"**, they kneel to place the casualty on the stretcher.

Two bearers

The stretcher is placed at the head of the casualty. The two bearers stand astride the casualty with the Number 2 bearer at the head, placing forearms under the casualty's shoulders. Number 1 bearer at the knees places his/her left hand beneath the casualty's thighs and right elbow under the knees.

The command **"Prepare to lift-LIFT"** is given and the patient is then placed on the stretcher by the bearers, taking short, even paces and stooping so that the body of the casualty just clears the stretcher, until the casualty is in position over the stretcher. The command **"LOWER"** is then given. Where additional persons (including bystanders) are available, they could move the stretcher to the appropriate position once the casualty has been lifted or they may be directed to assist in a more suitable lift.

When the stretcher is loaded and when injuries do not preclude its use, place adequate padding under the knees to support the natural shape of the legs. Also a small pad under the head gives comfort for many and protects from the traverse bar.

Unloading the Casualty

Unloading casualties from stretchers is carried out in a similar but reverse manner to that adopted for loading the stretcher.

If transferring a casualty to a bed, the casualty may be lifted over the end of the bed by blanket lift or as a four person loading of a casualty on to a stretcher. Or - the stretcher may be placed alongside the bed, the casualty removed as for loading by four person method, with Number 1, after removing the stretcher, placing himself/herself in control of the casualty's head and all moving forward to lay the casualty on the bed. Alternatively, a stretcher may be lifted to bed height, close up to the bed, slightly tilted up on its outer edge and the casualty be slid across or move across on to the bed with the assistance of a person or persons on the other side of the bed.

Carrying a Casualty on a Stretcher

A casualty is generally carried head first when:

-going uphill when the lower limbs are uninjured;

-going up stairs;

-carrying to the side or foot of a bed;

-loading an ambulance, but this may be modified in the rare instance where a casualty wishes to travel feet first.

At all other times, the casualty is carried feet first unless expressing a strong preference otherwise. The following paragraphs will serve as a guide for handling certain situations.

To cross uneven ground

The stretcher should be carried by four bearers and kept as near level as possible by each bearer adjusting the height of the stretcher independently according to the level of the ground. At the same time, prevent the casualty from falling by securing the casualty to the stretcher. When the stretcher is to be carried over a short distance, the bearers should face inwards and move by using short side paces.

Stretcher carriage by two bearers

Unless the casualty is too heavy, the two bearer carry should be considered even when more bearers are available, as it minimises the problem of uneven bearer height and creates a more balanced load. Additional bearers would assist in the lifting of stretcher and would take over the carry as changes became due. All other things being equal, the two bearers involved would alternate the carry at the head and feet end of the stretcher at each session of the carry.

When it is decided to carry by two bearers, the nominated bearers will place themselves between the handles of the stretcher. The remaining bearer or bearers will move to the side centre to assist in the lift and make sure the casualty's feet are not caught in the front bearer's clothing or equipment and be prepared to protect the casualty's head if head-dress or equipment should fall. Also during the carry they should be ready to protect the casualty from any brush or obstructions and keep a check on the casualty's condition.

On the command **'Prepare to lift-Lift-STRETCHER'**, the bearers, by bending the knees, stoop together and grasp the handles, then rise together, holding the stretcher at the full extent of the arms. All bring their feet together. The additional bearers turn inwards to the direction of travel when the lift is complete. The non-carrying bearers adjust the stretcher slings if available.

On the command **'Ad-VANCE'** (a slow relaxed order for a smooth movement), the front bearer steps off with the left foot, the rear bearer steps off with the right and the side persons with the inner foot. The side persons would be ready to assist at any time.

When the stretcher is required to be lowered, the squad will **"HALT"**, the side persons will turn inward to assist and on the command **"Lower-STRETCHER"**, all will, by bending the knees, stoop to place the stretcher on the ground without jarring.

Stretcher carriage by three bearers

This differs from two bearer carry in that two bearers are used at the 'head end' of the stretcher, positioning themselves outside the handles, with heels level with the ends of the handles. These two bearers should be of near the same height. While this is not so essential for the third bearer, it could limit the options when changing bearers.

They will position themselves as indicated above and on the command **"Prepare to lift-Lift-STRETCHER"**, will all stoop, grasp the handles and rise together. On the order to **"Ad-VANCE"**, the two bearers will step off with inside foot, while the front bearer will step off with the left.

On the order to **"Lower-STRETCHER"**, all will stoop to place the stretcher smoothly on the ground.

Stretcher carriage by four bearers

This may be by hand or shoulder carriage. In both instances, the bearers must be of reasonably similar height and those closest in height should be grouped at the same end. If possible, there should be padding between the stretcher poles and the bearing shoulder. Metal badges of rank are definitely not an asset and should be removed for the carry.

Shoulder carriage obviates the unbalanced load of the carry at arms length, but it does restrict the ability of the squad to observe the casualty during transport and to protect him/her from overhanging branches or brush.

For **"Hand carriage by Four Bearers"**, the responses to **"LIFT"** and **"Lower-STRETCHER"** will be the same as indicated before, except that all will be lifting with the inner hand while positioned outside the handles, with the toes and heels level with the ends of the front and rear handles respectively. The pattern is similar for lowering.

On the order to **"Ad-VANCE"**, all step off together with the inside foot.

This lift is the preferred one when it is necessary to manoeuvre a stretcher within a small space.

Shoulder carriage by four bearers

For this carry the casualty should be secured to the stretcher and consideration given to protection of his/her face and head. The bearers position themselves at the four corners of the stretcher, facing inwards, with the outer hand under and grasping the handles and the inner hand conveniently placed under the stretcher poles.

On the command **"Prepare to lift-Lift-STRETCHER"**, all stoop, by bending the knees, and lift the stretcher to arms length, continuing smoothly to lift to shoulder height, then turning inward to the direction of travel, lower the stretcher on to the shoulder. On the command **"Ad-VANCE"**, all step off with the inside foot.

To **"Lower-STRETCHER"**, the bearers with both hands in front of them and under the stretcher poles, lift the stretcher clear of the shoulder, turn inwards and spread the hands as for lifting. Then, in one smooth movement, they lower the stretcher to arms length and stoop to place it smoothly on the ground.

The shoulder carry does not need as much width space as does the hand carry and may be performed over longer distances. The shoulder carry is the method of choice in most 'bush rescues'.

Special Purpose Stretchers

When the carry is a long one over extremely rough ground, as in a bush rescue, it may be necessary to obtain long poles which can be attached to the side of a stretcher so that four or more bearers may carry on each side, on the assumption that at any one time at least four bearers will have firm footing. The same rules of step and changing bearers would apply as far as possible. Also in these circumstances it may be necessary to improvise a stretcher from whatever is available. It may be necessary to provide protection to the patient's face from brush, etc.

There are several special purpose stretchers and Divisions should endeavour to have them demonstrated from time to time so that should they be present when an emergency requires their use, they may firstly know to request they be made available and secondly assist in placing the casualty in and on them.

Australian First Aid discusses the Jordon Frame and the Scoop Stretcher, but these are essentially lifting/loading aids and their use in a prolonged carry is not recommended.

The Neil Robertson Stretcher, the Paraguard Stretcher and other similar stretchers wrap entirely around the casualty and permit his/her being raised and lowered vertically on a hoisting rope attached to a ring at the head or foot of the stretcher. They may be carried by handles/loops on the sides of the stretcher. The casualty cannot slip down on the stretcher bed, nor fall away from it, and they make a total splinting of the person.

The casualty may be passed through any opening which will accommodate the shoulders or the part of the body with the greatest circumference. To minimise shoulder width the casualty's arms (if injuries permit) may be left free so they may be raised over the head.

These stretchers are not suitable for a long carry by the nature of the carrying loops and bearer comfort and importantly the comfort of the casualty, but where there is a need for total splinting this must be accepted. Neither has runners so extra care must be taken in lowering the casualty to the ground. They may be carried on the shoulder with the bearers 'staggered' along the stretcher rather than 'paired' or may need the addition of long poles.

Some water and snow sports have their own specialised stretchers or method and means to improvise. Should these sports be among your duties, the organisation concerned will probably be happy to train members in their use or demonstrate them to a division at a suitable time.

Where exercises are carried out with helicopters co-operating in casualty transport, make every effort to ensure members (if not involved) are present to observe.

To Load and Unload First Aid Vehicle

The stretcher is lowered with the head just clear of the opened doors of the vehicle. Casualties are loaded head first unless their condition is likely to be aggravated or they express a strong preference otherwise.

On the command **"Prepare to lift-Lift-STRETCHER"**, the bearers, facing inwards, grasp the sides of the stretcher with hands comfortably wide apart, palms uppermost and rise together, lifting the stretcher. By taking side paces, the bearers move towards the vehicle, place the runners in the grooves and slide the stretcher into the vehicle.

When loading a vehicle, the bearers will find it easier if the head of the stretcher is raised slightly above the level of the foot. Some vehicles are provided with upper and lower berths. In such cases, the sequence of loading is upper right, upper left, lower right, then lower left unless the vehicular structures prevent this.

When unloading, the procedure is similar to loading, ensuring that the stretcher is carried just clear of the vehicle before lowering. The stretchers should be locked in position, with the casualty covered by an approved safety harness.

Seated casualties should wear safety belts. If their injuries preclude this, they must be carried as stretcher patients.

Remember that while all movement and transport of a casualty is taught as drill, its first priority is-CARE OF THE CASUALTY.

Personal First Aid Kit

Dear Colleague in First Aid,

A very much abbreviated Personal First Aid Kit has now been agreed to and will be the kit utilised for first aid duties and competition purposes:

ITEMS	REMARKS
Laerdal face mask 2 pairs disposable latex gloves Notebook, ball point pen or pencil	Items which may be carried by the first aider on his/her clothing.
CLEANING ITEMS 5 individually wrapped skin cleaning wipes (non-alcoholic) 5 individually wrapped skin cleaning wipes (alcoholic) 2 transparent adhesive dressings 1 disposable towel (e.g. Chux)	For cleaning small areas around the wound; for preparation of skin for adhesive tape to be applied. For cleansing first aider's hands; not to be used near wounds. To cover cuts etc. on first aider's hands. For drying of hands and skin; to assist with control of major haemorrhage.
WOUND DRESSINGS 1 combine dressing pad (approx. 9 x 20cm) 1 adhesive dressing strip (4cm x 1m) Assorted adhesive dressing strips (maximum 10)	Made of gauze and cotton wool, for bleeding or oozing wounds or for padding of major injuries. Cut to size for minor wounds; (N.B. keep in a sealed pack to protect cut edge of dressing from dirt and contamination). For use on minor wounds.
BANDAGES 1 triangular bandage 1 crepe bandage (10 cm) 1 crepe bandage (7.5 cm)	For use as a sling; as a broad or narrow bandage to support injured part; to retain a dressing or pad; or folded into a firm pad. To secure dressings in place; for pressure immobilisation in the treatment of envenomation.

MISCELLANEOUS	
2 plastic bags (approx. 30 x 40 cm)	To make an ice pack; carry an amputated part; seal an open chest wound; carry waste; make a dry work space; or for a casualty's valuables and personal items.
6 assorted safety pins	To secure bandages.
1 Universal shears or Listers bandage scissors or dressing scissors	For cutting dressings or clothing.
1 pad of Casualty Report Forms OB12 (BF45)	
1 penlight torch	For assessing pupillary size; for use in areas of decreased lighting.
DRUGS	
Paracetamol tablets, foil wrapped (10 x 500 milligram)	For pain relief; not to be given to children under 5 years of age.

The basic Personal First Aid Kit is required as the minimum equipment a member needs to carry when going on duty. It may be supplemented by other equipment which was previously incorporated into Kit Lists 'A' and 'B' for competition purposes as well as by equipment which could be held at First Aid Posts.

Depending on the duty, the basic Personal First Aid Kit can be supplemented. It is obvious that more extensive equipment will need to be stored at the First Aid Post for use when casualties are brought back to the First Aid Post or when first aiders go out from the First Aid Post to attend to casualties.

The advent of the two-way radio has removed the need for first aiders to carry a lot of equipment. If there are multiple casualties or significant injuries, then assistance can readily be obtained over the radio. In many cases stabilisation of the casualty will be achieved until the State or Territory ambulance arrives to transport the casualty. In other cases the casualty will be carried or assisted back to the First Aid Post for further management by the first aider.

When considering the purchase of first aid equipment, St John members must ensure that the bandages meet stringent bacteriological tests to ensure no contamination. If members buy first aid items from sources other than St John National Supplies, and infections are subsequently traced to those bandages, the action of those first aiders will be probably indefensible in a court of law. To prevent problems arising in our casualty management, all supplies should be bought through National Supplies where rigorous testing of bandages and other items is ensured.

In relation to the packaging of the basic Personal First Aid Kit, National Supplies keeps a variety of containers which can be used. The National Supplies Manager is currently investigating the provision of a shoulder-bag which will accommodate the basic Kit , including space for the OB12 Casualty Report Form.

Any comments in relation to Kit Lists should be channelled through your Divisional Officers to the District Medical, Nursing and Ambulance Officers.

Cheers,

J. Fred Leditschke

J. Fred Leditschke
Chief Surgeon

CONFIRMATION OF COMPLETION OF SKILLS MAINTENANCE PROGRAMME, 1994

Name (please print).....

Division..... Date joined St John ...../...../19.....

Signed..... Date...../...../199.....

Member to sign when Programme completed

The above member has completed the programme to my satisfaction:

Signed..... Date...../...../199.....

Person responsible for training

Signed..... Date...../...../199.....

Divisional, Corps or District Surgeon responsible for training

To be completed if the member needs a Training Branch First Aid Certificate issued.

The above member has satisfied the standards required by the Training Branch for Advanced Certificate (incorporating the former Medallion Certificate) accreditation or re-accreditation.

Signed..... Date...../...../199.....

Training Branch Accredited Instructor

The above copy is to be retained by the member

The Superintendent/Officer-in-charge is to send only the bottom section of this page to the District Surgeon at Headquarters.

CONFIRMATION OF COMPLETION OF SKILLS MAINTENANCE PROGRAMME, 1994

Name (please print).....

Division..... Date joined St John ...../...../19.....

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Divisional, Corps or District Surgeon responsible for training

To be completed if the member needs a Training Branch First Aid Certificate issued

The above member has satisfied the standards required by the Training Branch for Advanced Certificate accreditation or re-accreditation.

Signed..... Date...../...../199.....