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# HEALTH CARE FOR CRUISING

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The Royal Prince Alfred Yacht Club  
Newport NSW

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Course notes

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## 1 Course Objectives

We aim to inspire you to plan ahead so you can be well prepared to look after your health. You will learn to estimate the significance of medical problems by doing a risk assessment and when to:

- 1) be relaxed,
- 2) be concerned, or
- 3) be alarmed.

We will explain how to manage a range of medical illnesses and injuries which might arise whilst cruising.

We will make suggestions so you can optimise your medical kit and how to call for help.

## 2 Course Outline

- Preparing for the cruise - focus on your health (wellness and illness) before you leave.
- Managing medical illness and injury
  - 1) Triage ... how serious is the problem, might it improve or deteriorate?
  - 2) Emergency communication - with whom, how, why, when and what to say
  - 3) Treating medical illnesses including infections and medical emergencies
  - 4) Managing injuries
- What to take with you and other resources available
- Summary

## 3 Context

The advice is general, not specific to individuals.

- We have done our best to research and then provide you with medical information which can help meet your needs. We have generally provided public domain advice readily accessible on the internet and encourage you to read further. We cannot give specific advice for each person as your own past history is always pertinent to the best solution.

Any treatment plans should be prepared with your usual doctor.

These notes are issued as a guide only. Whilst all care is taken to ensure they are accurate, reference should be made to standard texts of treatment or for more drug or equipment information, to the manufacturer's written advice.

If you have any discrepancy with our advice you may discuss it with us but please contact your own doctor for your solution.

## 4 RPAYC disclaimer

Course participants should note that this seminar is conducted by members of the Club for the benefit of other Club members and their guests. The seminar presenters may not necessarily have relevant formal qualifications and as such the presenters are conducting the seminar based upon their knowledge and experience. The material and advice provided at this seminar is general in nature and any member or guest should be aware that the presenters and the Club take no responsibility if such advice should be incorrect or inaccurate. Accordingly members or

their guests should at all times seek independent professional advice with regard to any matter upon which they may be unclear or require further information.

## **5 Skippers' responsibilities, obligations and rights**

Skipper, you are responsible for the safety of your vessel, crew and passengers. This also includes being responsible for healthcare as described in item 5.1 below from the Green Book. On water, you must be ready to assist others who need help (even though on land you are not obligated to). "Good Samaritan" Laws are in place in NSW & Queensland to facilitate this.

- The objective of the Bills is to afford legal protection to persons in our community who assist "persons in distress", provided that such aid or assistance is given in emergency circumstances, and that any act done or omitted is done so in good faith and without reckless disregard.

Skipper, you also have rights to demand safe behaviour from you crew and guests.

### **5.1 Extract from RPAYC Green Book Section 6.01**

#### **6.01 GENERAL REQUIREMENTS**

- 6.01.1 The skills and training of crew and the quantities and types of medical supplies to be carried will depend on a number of factors including the number of crew, individual state of health, the duration and location of cruise, the level of access to external assistance and the approach to risk management.
- 6.01.2 Skippers must be able to demonstrate that the level of first aid skills and training amongst the crew is adequate to competently render first aid and that the boat has on board the range and scales of medical equipment and supplies to deal with the medical emergencies and conditions most likely to occur on the cruise.
- 6.01.3 Each skipper is responsible for onboard medical risk planning and management. The most likely medical emergencies and conditions to require treatment during a cruise include:
- Pain relief - mild moderate and severe
  - Sunburn
  - Dehydration
  - Seasickness
  - Diarrhoea / Constipation
  - Flesh bruises, wounds,
  - Damage to eyes, digits, limbs and ribs.
  - Strained muscles
  - Burns – minor and severe
  - Antibiotics and other medication
  - Cardiac emergencies

- 6.01.4 It is the responsibility of individual crew members to inform the skipper of any medical condition or ongoing treatment that may affect their capabilities as a crew member. Similarly, it is the responsibility of the skipper to inform the crew of any medical condition that may impair her capabilities as skipper.
- 6.01.5 All crew members must know where medical equipment and supplies are stored. The location of all medical items must be shown on the boat's stowage plan which must be displayed in a prominent position in the boat (eg chart table, saloon).
- 6.01.6 The skipper must demonstrate that the scope and currency of the medical reference information carried on board is adequate for the likely emergencies and medical conditions noted above. All crew members must be capable of seeking external medical assistance by phone, radio or other means and relevant instructions must be readily available.

## 6 Assumptions

You will usually be short handed and for many, this is your first long cruising trip.

You will be over 50 and may not be in perfect health nor very fit, but your health will be stable.

You will have access to medical advice via radio or phone most of the time and access to face to face help within 12 to 24 hours.

You will have completed a First Aid Course.

You will have a GP.

We have chosen topics where you can add value by being prepared, informed and equipped to deal with them. We will not deal with worst case scenarios resulting from foul weather, broken gear or MOB! Avoid these please.

## 7 First Aid Training

Do an accredited First Aid course before you go and update your skills every 3 years. Without practice and relearning you might forget life saving techniques. Because:

- 1) First Aid training teaches you what to do FIRST and what you can do until help arrives, usually within 30 minutes.
- 2) It trains you in foundational skills for responding to many medical emergencies.
- 3) These skills are essential if you are cruising as you may be required to respond to serious emergencies.

You should have at least one qualified First Aider on board.

## 8 Preparing for the cruise

- 1) Have a complete check up and get up to date vaccinations
- 2) Know your illnesses and how to treat them
- 3) Develop adequate fitness for cruising sailors

## 9 Have a Complete Check - Up

Today many illnesses can be effectively managed and this can improve your wellbeing and minimise the problems you develop. Also, early detection of insidious disease can dramatically

increase your life expectancy and quality of life. So always have routine check-ups and the diagnostic tests relevant for your age and your other risk factors.

And, come to terms with the fact that you will be away for a while and won't have easy access to these routine medical checks. Everyone over 40 needs a review of their health and if you are over 50 don't be surprised if you have "issues". So checks are recommended at least a couple of months before departure.

Imagine you have just poured a cold beer at anchor, you are watching an amazing sunset on the first day of a passage where you are cruising some tiny islands and planning to be away from civilization for a week. You look down and see a nasty red and brown mole bleeding on your leg... or you go to the toilet and notice blood in your wee, start the outboard engine and get chest pain or feel a little lump in your breast. None of these should happen if you have a thorough check-up before you leave.

If you have any known existing medical issues – diabetes, heart disease, high blood pressure, cancer etc you will be used to regular checks - so have these reviews up to date before you go. (More on this in the next section called "Know your Illnesses".)

## **9.1 The check-up with your GP**

Make a long appointment to see your GP if you can and specify it is for a check-up. If your GP is inclined, it makes sense to have the blood tests done a week prior to the appointment so the results will be available for your GP to review when you see her or him. If not, expect to need two visits to complete your check up.

### **9.1.1 What might be involved**

Full history

Physical examinations (hands on)

A family GP who is doing a thorough check up will take your blood pressure, listen to your heart and lungs, examine your abdomen and nether bits, weigh you, look at your skin, check your eyes and vision (if not done by your optician or eye specialist) and order blood tests or review the blood tests you had recently. Boys may have a rectal examination to check their prostate which is not pleasant but can be a good idea. Women might have a breast examination. A skin check is useful – so check your own prior and bring any concerns to your doctor's attention (See also the skin section in more detail soon.) Review your immunisation (see details later). Special diagnostic tests may also be ordered now depending on your own risk factors.

### **9.1.2 What else might be involved**

Blood and urine tests:

- a) Full blood count, ESR and CRP (C reactive protein for infection or inflammatory disease)
- b) Fasting BSL (diabetes)
- c) Fasting lipids – Cholesterol/HDL/LDL and Triglycerides (heart risk)
- d) Biochemistry blood test – kidneys/liver/electrolytes/uric acid
- e) Vitamin D Levels for those over 60 (quality of bone)
- f) Routine urine microscopy and culture (kidney stones, infections and later stage tumours)

- g) PSA (prostate cancer blood test) twice
- h) Maybe Hepatitis A+B antibody levels to review your immunity.

### **9.1.3 Special diagnostic test**

Special diagnostic test:

- a) Pap smear
- b) Mammogram through free screening or by private referral
- c) ECG, baseline resting or exercising and echocardiogram if indicated.
- d) X-ray for painful joints - to further evaluate
- e) Bone Density for women over 50 and men over 70
- f) Bowelscan FOB is recommended for those over 50 and available through chemists or the Bowelscan program. Those with a family history of bowel cancer should have regular colonoscopy as recommended by their GP or Gastroenterologist.
- g) CT scans, MRIs and other imaging may also be required. Don't forget to mention them at your check up!

### **9.1.4 Other health providers**

- 1) Dentist – who hasn't had an urgent toothache at some time which the dentist says might have been prevented with more regular check-ups??
- 2) Visit your optometrist if you have not been in the last 18 months and/or your eye specialist if you have identified problems – cataracts, macular degeneration, glaucoma or family history of this.
- 3) Podiatrist for ingrowing toenails, corns etc
- 4) Physiotherapist / chiropractor to get those aches and pain sorted and to be reminded what exercises to do and how to lift.
- 5) Dietician, hearing check, acupuncturist, orthotist visits may also be a good idea if indicated.

Some of these health check tests can be pricey, and even the basics could cost you a couple of hundred dollars. The special diagnostic ones can cost hundreds each. We can't value your life in dollar terms but we do believe that reducing risks of illness and early detection of existing illnesses is worth a "fortune" over both the short and long term.

While at your doctors, ask him or her to print out a Health Summary from the electronic database – this can easily be done and is a valuable clear record of your current and past illnesses, allergies, current medications and immunisations. You may keep this yourself on board to ensure confidentiality but let others know you have it and where it is.

## **10 Vaccinate early and often**

There is no law forcing you to have vaccinations, however, we are recommending the following and the final decision is yours. See also government web sites for more information and the internet in general for more advice.

- Essentials

- Tetanus, whooping cough, diphtheria and polio (boostrix IPV) every 10 years
- Seasonal Flu currently including 'birdflu'
- Advisable
  - Hepatitis A and B
- Options – if you have risk factors
  - Pneumococcal 23vPPV
  - Meningococcal
    - ◆ Your grand kids will have most of the following before they are 5! Hepatitis B, meningococcal, rotavirus (gastro), Haemophilus influenza, pneumococcus, diphtheria, tetanus, whooping cough (pertussis), polio, chickenpox, measles, mumps, rubella and later HPV!!

## 11 Know your pre-existing illnesses

The aim is that YOU take some control and responsibility

When your GP's surgery is just down the road you may not be inspired to really understand your illnesses. But, when you may have to make decisions on your own, or explain to another doctor what has been happening to you, it is difficult to communicate if you don't have some idea of what signs, symptoms and concerns might be significant.

- You should learn as much as possible about of your illnesses.

It makes sense to be very familiar with your own illnesses – not just if you are cruising, away from close medical care, but in any event, to get the best result from a medical problem, YOU are in the best seat to take control.

Anyway who else is more interested in you than you?

- You should learn signs and symptoms of when you have well controlled and stable disease, and, the opposite, when your health is deteriorating, and how serious this might be.
- You should understand your drugs, when to take which ones and if there are any interactions. Arrange sufficient supplies.

Drug treatments today are complicated and can be very confusing. eg fluid tablets used for blood pressure instead, tablets for depression used for chronic pain relief, your "heart" tablets might inadvertently cause asthma, urine retention or that annoying cough. Worst of all, drugs with different names might have the identical or similar action causing overdoses if both are taken. It can be quite dangerous and down right embarrassing to say "I don't know why she or he gave me that drug". And beware OTCs (over the counter drugs). The most likely ones that cause serious interaction for us are cough and cold medications and sea sickness pills. So, if you don't know exactly what prescription pills you are taking how can anyone advise you which cough medicine to take... and how can you be sure that it is the right one for you?

Also, Regulation 24 (Reg 24) allows your doctor to write, and for you to have dispensed, more than the usual one month supply of drugs.

## 12 How to look after your pre-existing illnesses

Each person should understand their own illnesses.

Some examples are provided to inspire you.

### 12.1 Angina and ischaemic heart disease

If stable – take your medications or use your patches and don't be afraid to use Nitrolingual spray or Anginine tablets.

If you find that you have more chest pain than "usual", make a phone call while you can and get advice from your doctor. Any change in your symptoms needs assessment. Continue other medication as usual.

If your angina is UNSTABLE – DON'T GO.

And, beware!! If you are getting "niggly pains in the chest" at present it is wise to have your symptoms fully investigated. A heart attack ten hours north of Coffs Harbour may be debilitating or even fatal even though it might have been preventable. What is your cholesterol, is there a family history of heart disease? What do your special heart diagnostic tests say about your risk of having a heart attack?

### 12.2 Anxiety and mood disorders

Anxiety is a common condition which is often hard to diagnose, hard to treat and usually hard to understand. If you have been diagnosed with anxiety or if you think you may have it, chronically or just occasionally, then read up as much as you can about it. Discuss it with your GP as the best treatments can be complex and may involve behaviour modification, meditative modalities and short term use of medications.

The risk for the cruiser is that often anxiety causes physical symptoms which can be misunderstood or misdiagnosed if the underlying condition is not recognised. For example, people who are anxious and who get panic attacks can end up being fully investigated for heart palpitations, brain tumours, rare tumours causing fainting, menopause causing sweats, mood disorders and even bowel cancer causing weight loss instead of having their anxiety explored. So be alert and take care to seek the best advice before you depart to avoid useless and distressing ad hoc treatments and tests on your trip.

Depression can be mild or severe and for the person suffering from this common illness it can actually be anything in between depending on the moment. You may need to take extra medication which makes you too drowsy for your shift on watch. Ideally cruising is relaxing, uncomplicated and wonderfully devoid of the bustle of our other daily lives. However, try not to alter your medication when you are embarking on a cruise and preferably feel that your mood is stable before departure. Make contact with a practitioner who you trust before you leave so you can call them if you need to.

### 12.3 Arthritis, "rheumatism", gout, aches and pains

Rheumatoid arthritis and other joint destructive arthritis need close management. So see your rheumatologist and GP for ongoing care.

Osteoarthritis is essentially 'wear and tear' and 'the passage of years' must be managed by exercise within your limits, anti-inflammatory drugs, paracetamol, heat and liniment. Sometimes people find relief from acupuncture, massage etc

Degenerative joint disease may eventually need surgical replacement – these can be very successful and mobilising. Having agreed with your surgeon that you may need a joint replacement in the future the most common question is "when"? Discuss this with your doctors and be aware that you should keep your own original joint until you can't do what you

would normally like to do. Don't plan an offshore cruise within 6 months after a joint replacement as you may not have regained the strength and mobility for the task.

If you get gout, cut down the booze, any triggering foods and take the appropriate medication. Also blame your genes (like most other things).

If you suffer from aches and pains – polymyalgia, RSI, rheumatism, bursitis, tendonitis, frozen shoulder, capsular diseases, frayed and torn ligaments and .... find the cause (if possible) and treat it if you think it needs it. Some medications themselves cause aches and pains and there are whole libraries written on what is best treatment for muscle and joint pain. Make sure you know if your tablet for the aches and pains can cause drowsiness.

## 12.4 Asthma

Have an asthma action plan and understand its use. This is SO important. Develop and discuss it with your GP. Confirm your most appropriate medication and know the difference between bronchodilators (relievers, blue coloured) which can be short acting or long action, steroid based puffers (preventers) and other types of puffers and medications. You don't have to remember everything but write down exactly what each puffer and drug does for you. Use the internet for plain English explanations.

Ensure your inhaler supplies are generous – have Reg 24 scripts filled and have plenty of the preventer and reliever inhalers on board. We suggest you at least have a blue puffer (reliever / Ventolin) in each cabin and /or head, in the Navigation desk and ready inside your wet weather gear. And next time you have your life raft serviced, ask them to put one or two inside.

Take and use a spacing device and have a seasonal flu immunisation before you go.

Take spare medication in case your asthma deteriorates – in particular oral prednisone (cortisone, steroids). You may have never had the need for prednisone before but if you get "tight" and you are six hours from a nebuliser or drip, these pills can perform miracles. Learn how many to take.

Consider a peak flow meter. It is essential for kids.

## 12.5 Blood pressure (BP)

Visit your GP and ask what your BP targets are and if you have reached them. Learn what your range has been lately because most people get nervous visiting a new doctor and may have intermittently raised blood pressure which does not necessarily require more drugs to better control, especially if it is not dangerously high. Learn what is a raised level for you.

Confirm that your medication is appropriate and ensure adequate supplies. Blood pressure drugs are complex and you wouldn't normally need to pay too much attention to the detail. But how often have you heard that someone goes to a doctor who is not their usual doctor and their medication gets changed to "improve" their blood pressure control, to reduce the side effects or drug interactions?

There are at least 30 different popular drugs used for blood pressure control and most GPs only know the detailed facts of the five or so they use. Despite the fact that it can be poor practice to meddle with medications after only one or two readings from a new patient this often happens to sailors who arrive in a town for a quick blood pressure check. So learn about your medications and what "drug family" they come from and understand the difference between the generic name (the small print) and the brand name (the big print). So, don't run the risk of using two drugs from the same family, or paying money to buy the same drug by a different brand name.

Get yourself a sphygmomanometer and record your own BP if you have ever been troubled by unstable or labile blood pressure. Write the figures down.

Many people with elevated blood pressure benefit from a low salt diet, lots of exercise, good weight control and low dose aspirin if you are over 60 or have other issues. Sometimes the exhilaration of cruising and the escape from some harsh realities of daily life can have a very positive effect on chronically raised blood pressure. So beware of the signs of low blood pressure if you are taking blood pressure medication. The symptoms of “light-headedness” can easily be confused with raised blood pressure, but it is easy to resolve often with a single BP reading.

## 12.6 Cancer

Unfortunately some people on this cruise may have cancer in one form or another. A key asset in cancer management is taking control yourself.

A lot of cancers are curable but require ongoing review. Many cancers are incurable but controllable. That is why specialists get you back all the time, to watch for recurrence and fine-tune your management. This is crucial to optimum cancer management. However, it is easy to be entwined in the routine of cancer management and lose your own day-to-day life. Discuss this with your oncologist, surgeon, haematologist or whoever is your primary cancer doctor plus your GP.

Form a window for the specialists’ visits which allow for your sailing plans – firm up the dates – they can work around your plans – work with your doctors but TAKE CONTROL. If you book early you can get reasonably priced flights from some airports near a marina and you could fly back to Sydney for check-ups, routine tests and medication reviews.

Get names of known specialists on your planned trip path from your doctor. Get a summary or recent letter from your doctor to provide management plans, pathology results etc for another doctor, just in case they are needed. Get adequate supplies of your medication – Reg 24

Form a relationship with your GP – she or he is the one person who can oversee the whole scenario and co-ordinate with your cancer surgeon, oncologist, radiotherapist, psychologist etc. They are most likely to be accessible by phone while you are away also.

## 12.7 Diabetes

If you have diabetes the best manager and monitor of your diabetes is YOU. Take control please!

The aim of management is sugar (glycaemic) control, fat (blood lipid) control and blood pressure control. Getting these right most of the time will give you the best chance of having a normal life without nasty complications.

Set and achieve your targets – Check this with your GP.

Exercise, diet, weight management and appropriate medications are the key. And those with diabetes should know enough about your medications to have an informed discussion with health professionals. Although the choice of diabetes drugs is not complex their side effects can be difficult to control.

Whilst sailing there is an increased risk of “hypo” attacks as meals can easily be missed due to unexpected changes in wind and sea. So, if you are taking medication for diabetes don’t forget Glucagon injections and teach your partner or crew to know when and how to use it. This applies to those on oral medications as well as insulin dependent people. In fact, if you have a guest who has diabetes and who has ever had a “hypo” attack (low blood sugar causing reduced or loss of consciousness), we personally would insist that they carry a Glucagon injection and that there is someone who knows how to use it. And keep little supplies of glucose food stashed all around the boat and especially inside your wet weather gear.

Insulin dependent? Ensure adequate supplies of medications and testing equipment. Have a clear management plan. YOUR personal plan is out of the scope of this seminar. Visit the web site [www.diabetesaustralia.com.au](http://www.diabetesaustralia.com.au) if you haven't already, and get informed!

## 12.8 Gastro-intestinal disorders or abdominal disorders

Inflammatory Bowel disease, Coeliac disease, Irritable Bowel Syndrome, indigestion and constipation are some of the common bowel conditions.

Specific bowel conditions need specific management. If you have an inflammatory bowel disease, Crohn's Disease or Ulcerative Colitis, make sure it is stable before you go and you have adequate follow up and suitable medication before your trip.

Coeliac disease or other malabsorption syndromes will probably be well-investigated prior to your trip. Dietary management as the cornerstone of treatment is relatively easy onboard as you have full control over your foodstuffs.

Abdominal pain is a serious symptom and should be investigated if severe or persistent for even a short time. Don't leave town wondering if those recurrent pains at night might be gall stones, an ulcer or simply reflux. Get it sorted out before you depart. In normal circumstances you and your GP may have decided to "wait and see". But if you are departing for a six month cruise your decision may be different now. And carry your favourite indigestion tablets so that a little heartburn doesn't develop into a big pain.

Simple constipation and diarrhoea are managed with fluids and maybe drugs you should have on board. Don't let piles ruin your day. Avoid constipation and straining. Suppositories can relieve the discomfort and swelling of piles. Purchase them before you leave. Don't wait until you go to the chemist in Bundaberg and try and explain your problem to the 15 year old assistant. You may come out with nothing!

## 12.9 Migraines

At "our age" migraines are less frequent and less severe and should be of an old and familiar friend, but, as with all other illnesses, you need a good understanding of what is happening with YOUR migraines. Migraine can mimic so many things and can cause alarm to everyone when not well understood and explained by the sufferer.

Again, when sailing, don't delay taking your treatment and don't wait and see ... do what you know works and do it early and completely. Explain to others what you need to do. eg that you need to take your routine medications, lie down, that you can't see properly, that you may vomit and that you may not be any use for however long it usually takes (3 hours or maybe 24 hours) Make it clear that you have had this often enough to know what it is and that you will recover fully.

Know your triggers (eg very bright sunlight, certain stresses or foods) and whether you expect to get clusters with the migraine recurring over the next couple of days or just a single bad head. Know what drugs work for you and bring enough on board. Check expiry dates as migraine tablets and sprays have short shelf lives.

## 13 Fitness for cruising sailors

**Why get fit?** Because being fit increases your feeling of wellbeing, your ability to do physical activities and to do physical tasks.

Getting fit will not only increase the enjoyment of your cruise but will increase your 'joi de vivre' – your feeling of well being. For most people, the more you exercise, the easier it becomes. This is because exercise makes you feel terrific and also releases endorphins which are addictive. It only takes three weeks of regular aerobic exercise for you to feel better and

want to stay fit by continuing your exercise. The risks of not doing regular exercise – weight gain, poor posture, osteoporosis, low tolerance to exertion, poor cardiac function, general weakness and sluggishness are a bad option.

Getting Fit Ashore,- the current recommendation of the National Heart Foundation is 30mins of moderate intensity physical activity on most if not all days of the week. This advice should be modified to your personal limitations. See you GP or visit [www.heartfoundation.org.au](http://www.heartfoundation.org.au) or [www.healthyactive.gov.au](http://www.healthyactive.gov.au). Exercise should be twofold – AEROBIC and STRENGTH.

- Aerobic - In practical terms this means walking fast, jogging, running, cycling or swimming. Raise your heart rate consistently for the exercise period. Exercise fast enough to be short of breath or have difficulty talking.
- Strength - Strengthening exercises maintain bones' strength and help prevent injuries. Simply grinding winches and setting sail is not enough. Take small weights (2-5kg) and therabands onboard and establish a routine of weight training twice daily – if you start this before you set off, the routine is more likely to be maintained.

Staying Fit – Maintaining fitness is tricky for sailors. Cruising under sail is essentially a sedentary occupation. Despite the flurries of activity weighing anchor, getting the main up, sheeting the headsails etc, sailing has long periods of inactivity, sitting in the cockpit or down below and every effort should be made to maintain your levels of fitness. So:

- ✓ Don't sit. Walk and remain active.
- ✓ Use weights or water bottles for strength repetitions.
- ✓ Walk, walk, walk for shopping and sight seeing. Walking maps to shopping centres are available on the Club Website.
- ✓ Cycle, swim, paddle AND row ...for fun!

Take every opportunity to get ashore and run, walk or hire a bike and cycle.

Take aboard your 2-5kg weights and form a routine of sets twice daily.

Kayak – many cruisers take kayaks with them and combine this aerobic and strength exercise with exploring the new area. Or get in the dinghy without the outboard and explore by vigorous rowing.

Swim – many folk swim long distances similar to lap swimming at home although you always need to be aware of the marine creatures you share the sea with.

## 14 Assessing the risks of medical illness or injury

Each situation requires careful initial assessment and then regular re-assessment. Because:

- Severity of illnesses and injuries change over time.

First Aid courses focus on the initial assessment in an emergency situation. However, on boats the challenge doesn't end when the ambulance arrives 10 to 15 minutes later!

Take something as straightforward as a cold. Your wellbeing deteriorates over two days, stabilises and then improves over a couple of days. Unless you develop bronchitis, sinusitis, asthma or even pneumonia! Being disinterested in the evolution or deterioration of your illness or injury is not very risky when you are five minutes from a doctor or emergency department. On the ocean however, we should try to avoid getting worse and some practical knowledge is the best way to avoid escalation of the problem.

- On the ocean there are extra risks and no ambulances

If vigilance and being very well prepared are essential to manage the wind and waves, why would you do anything less for your health? If you think sailing short-handed is challenging, just imagine what it would be like if the least skilled person on your boat was left alone to deal with a storm, calling for help, trying to help the other person who might be very ill, and being sea sick at the same time. Do everything practicable to make sure this doesn't happen.

- You might need to contact someone for help ... do it earlier rather than later

Keeping a clear head when faced with illness and injury is not easy, even for professionals. Talking to someone else when you are faced with many difficult decisions which need prioritising such as altering course, responding to sea state, nursing the sick can be useful and reassuring. And, knowing that the VMR have you on their "radar" can be comforting. In addition, there will be times when you need clinical advice from experts. We will discuss communications later.

## 14.1 Triage / risk assessment tool

Level 1 - Mild illness or injury requiring self care only. You can be relaxed.

Level 2 - Mild to moderate illness or injury requiring self care plus special intervention eg drugs. See doctor for follow up, be vigilant but you can be fairly relaxed.

Level 3 - Moderate to severe illness or injury. You probably need to call for advice, finish your passage and should seek medical advice in port. You will be very vigilant and concerned.

Level 4 - Serious illness or injury equal to 000. Contact medical help, rush to port for care and be alarmed.

What signs are there of **severe** or **serious** illness and injury? How can you know what risks lie ahead?

For "medical" illnesses it is the severity of the symptoms, the duration of the symptoms, whether the symptom is improving or deteriorating which indicate how serious the illness is.

The age and underlying health of the patient will also influence your risk assessment.

For injuries, it is the symptoms plus the nature and force of impact which are the guides to risk of serious injury.

### Some things which should concern you:

- a) Unwell with vomiting or diarrhoea for 24 hours
- b) Visual disturbances, not migraine
- c) Psychological distress
- d) Severe rash
- e) Cut / laceration from dirty source or needing stitching
- f) Bad sprains, strains and bruises
- g) Severe flu like symptoms
- h) Fever >38°C

- i) Eye, ear infections or pain
- j) Continued breathing difficulties from asthma / bronchitis
- k) Past history and current history of serious illness

**Some things which should alarm you:**

- a) Chest pain lasting more than 5 minutes
- b) Breathing difficulty and having difficulty talking
- c) Facial swelling and rash
- d) Collapse or altered consciousness
- e) Facial or limb weakness
- f) Extensive burns
- g) Fitting
- h) Bleeding which is or has been hard to control
- i) Spinal or head injury
- j) Snake bite and other envenomations
- k) Heart palpitations lasting more than a few minutes
- l) Neck stiffness and photophobia (can't tolerate light)
- m) Unable to urinate
- n) Unwell child
- o) Eye injury
- p) Severe pain
- q) Injured possible fractured limb

Extract from Dandenong Casey General Practice Association triage tool.

Some illnesses and injuries may however be too serious to overcome. Falling from a mast or being hit by a heavy flying boom can cause extremely serious injuries. In these examples internal bleeding may be so serious that there may be little we can do to help. It is unlikely that even the most skilled doctor can save a life from serious injury at sea, hours from help. No-one can perform CPR on their own effectively for more than about 10 minutes. Strokes and heart attacks can sometimes be instantly fatal. Don't ever expect too much of yourself in these very difficult circumstances, hours from professional help.

## 15 Emergency communications

Who to call?

GP, specialist, nurse friend, doctor friend, local emergency department, Royal Flying Doctor Service, AMSA, Volunteer Marine Rescue, Minister for Health, Dr Kildare, 000, 112, health insurer, RPA, port authority, marina manager, pan pan, internet chat site, ambulance depot, psychic healer, Vice Commodore, mum, kids, etc

What advice do you need?

Basic stuff, reassurance, help with triaging, medication recommendation, assistance with contacting more help, assistance with transport, assistance with a catastrophe.

When might you call, under what scenarios?

- ⇒ You can call if you need some advice
- ⇒ you should call if the situation has concerned you
- ⇒ you must call if the situation has alarmed you

For example

Sprained wrist ... need reassurance for splinting and help accessing X-ray on shore? You can call if you want to.

Persistent cough ... want advice on antibiotics and on shore based medical services for follow up? You should call if this has concerned you.

Possible broken leg .... need advice on pain relief and arranging ambulance on shore? You should call to arrange the ambulance and for advice and support for you and the patient.

Possible stroke or heart attack (remember you ...NEVER can tell how serious it might be or become) ... need advice on action to take, medication and possible retrieval by boat or helicopter? You must call if you even suspect something serious is wrong.

Unless this incident has happened to you before, you will not be perfectly calm and you will not be thinking as clearly as you would like to. Talking to someone else will help you focus and to think more clearly about what you should do. In addition, expert advice will help you deal with the situation at hand. It is never too early to call. Don't think you might be a nuisance if nothing serious is wrong. Health professionals agree that being asked for help before things get bad is much better than the alternative.

*Who you can call, what device to use and what advice and help can they provide?*

## 15.1 The Royal Flying Doctor Service (RFDS)

The recommended communication device is the mobile telephone. You can contact them via HF although you will require a special DSC option for your radio in order to contact them outside of office hours. HF is therefore not recommended unless you can arrange a HF channel connection via a third party example, Marine Rescue instructs you to call RFDS on a specific HF channel as RFDS are waiting for your call.

RFDS have 4 principle bases in NSW and Qld (Cairns, Charleville, Mount Isa and Broken Hill) and 4 other aero bases (Brisbane, Bundaberg, Rockhampton and Townsville). For medical advice you contact one of their four principle bases

RFDS South Eastern and Queensland Sections

Base	Medical Emergency 24hr phone number	Call sign	HF freq (must use DSC, not recommended without pretuning)
Cairns	07 4040 0500	VJC	2020, 2260, <b>5145</b> , 7465
Charleville	07 4654 1443	VJJ	2020, <b>4980</b> , 6845
Mount Isa	07 4743 2802	VJI	2020, <b>5110</b> , 6965
Broken Hill (covers NSW)	08 8088 118807	VJN	2020, <b>4055</b> , 6920

The RFDS will provide medical advice over the phone whenever they can. During the day you will be answered by their communication team who will put you through to a nurse or doctor.

Out of hours you may go straight through to a doctor. Don't be put off by the fact that they are based in the bush. They are extremely well trained and responsive. They are particularly experienced in talking to non-medical people in need of help. But, they are a small organisation and their ability to respond can vary depending on what other emergencies they are attending to.

### *What advice will they give?*

They can advise you on a full spectrum of medical issues from trivial to extremely serious. You may talk to a nurse or doctor. They can give verbal advice and if necessary arrange a helicopter retrieval co-ordinated by themselves or AMSAs Search and Rescue (SAR) plan.

They will ask lots of questions to assess the severity of the situation. You will already have a good idea of the seriousness from your "triage" approach. They will always want the short history of how the problem arose and they will want to know all about the patient. They will then advise you to either do basics such as panadol, rest, wait and see. Or, they may ask you what medications you have on board and suggest you use antibiotics, stronger pain killers and other specialised drugs. They can help with other medical interventions for chest pain, asthma or marine envenomations. They may suggest you make haste to port if they are concerned about particular issues. If the person has pain or injuries they may ask you a lot of questions about the intensity of the pain, is it colicky (comes in waves) or constant. They will ask for the location of the pain. You should try and use the chart at the end of this section to help give a better idea of where the person feels the pain.

If the situation is serious they may start to arrange for more support for you either via the phone or by a retrieval on a boat or helicopter. Remember, you are quite likely to need a retrieval if someone is suffering a heart attack, a stroke, has serious injuries with substantial bleeding, a compound fracture, loss of consciousness or dangerous marine envenomation.

## **15.2 Healthdirect Australia**

**Telephone 1800 022 222**

This is a new public service which is a National Health Call Centre Network. Presently (January 2011) it covers NSW but technically not Qld until later in 2011. It is a free 24 hour telephone health triage, information and advice service. As part of the service it also provides [www.health/nsite.com.au](http://www.health/nsite.com.au) for guidance on general health issues and topical health issues. "Your call will be answered by a registered nurse who will use sophisticated computerised decision making systems to provide safe and consistent assessment and advice."

You should try them when someone gets sick and you are not sure what to do, when you want information about specific health conditions, you want poisons (ingested) information or you want to find after hours health services.

However, when you call, you cannot expect them to have a sophisticated screen for short-handed sailors, 50miles and ten hours from a hospital. However, they may be very helpful for "normal" medical questions.

### 15.3 Local hospital emergency departments

These are listed here for completeness sake. Contacting them is not easy as you go through a switch and then maybe to a clerk at the desk. It is often very difficult to speak to anyone except the triage nurse whose job it is to tell you to stay away or come to the emergency department and wait your turn. You can use call connect to find their numbers and occasionally you will be pleasantly surprised with the response ... but sadly, rarely.

### 15.4 Volunteer Marine Rescue

**Using mobile phone** refer to phone number in Cruise Manual

**Using VHF channel** 16, 67 or the local repeater which may have wider coverage.

Marine Rescue NSW and Marine Rescue Queensland were formerly Australian Volunteer Coast Guard, Royal Volunteer Coastal Patrol and Volunteer Rescue Association etc. These volunteer organisations have come a long way in the last couple of years and still have a bit further to travel before they can reliably achieve the service standard of 24/7 VHF coverage along the whole coast. However by using the Marine Rescue stations' VHF channels or the VHF repeater stations you can pretty well rely on them along the east coast if you are less than 20 miles off the coast (possibly up to 30nm). They are part of the National Search and Rescue Plan (see Australian Government below) which can co-ordinate helicopter or other emergency services. VHF radio traffic is monitored on Channel 16 by these volunteer bases as well as by Port Corporations. Monitoring is 24 hours 7 days at Port Corporations, Search and Rescue Coordination Centres (SARCCs) and most volunteer marine rescue bases.

Typically VHF range is extended to 30 nautical miles or more when using a marine repeater (see the fantastic resource on Rob's Passage planner). There are currently ten VHF marine repeaters along the coast of NSW and others in Queensland which have been installed and are monitored by the volunteer services. If you cannot raise anyone on channel 16, use the appropriate repeater. VMRs can also be contacted by mobile phone and Rob's Passage Planner and other CCC material will give you the mobile phone numbers of the VMRs along the coast.

***So, every morning in your log, write down the phone numbers and repeater stations for the VMR services which you will be encountering that day.***

#### *What advice will they give?*

When you call the VMR you will not be talking to anyone who is a nurse or doctor. The VMR can advise you of contact details for doctors and local hospitals. They can make calls for you and arrange an ambulance or possibly, arrange for someone clinical to call you back. They can arrange a "Search and Rescue" if things are catastrophic and it is needed. They are really good at coaching you back to port. They can help with advice on the weather, tides, bar conditions, marina facilities and may come and meet you on the water if that will help or arrange a tow if needed. Even if you are not sure if they can help it is often reassuring to call and let them know you have a problem. They will then "keep an eye" on you as you travel to port.

### 15.5 000 Emergency

10 years ago some mobile phones required you to dial 112. It is no longer necessary to do this. And, no matter which carrier you are with, all networks will cover your call if you dial "000". When your 000 call is answered you will be asked if you need fire, police or ambulance. If you ask for an ambulance then the ambulance service will initially want to try and send you an

ambulance. So, firstly state that you are on the high seas, then give the nearest port, the hours it may take to arrive and current lat/long. You will need to give them this information before they have any idea what to do with your call. Usually you will not be talking to a nurse or doctor so you cannot get medical advice. They will usually just want to know if you want the ambulance to be at the port you are heading for and they may need to decide if they will send a paramedic or normal ambulance.

A call to 000 may give you appropriate assistance if you are in a generally catastrophic situation but there are better alternatives, such as VMR or a Pan Pan.

## **15.6 Calling a Pan Pan on VHF channel 16**

You may need to call a Pan Pan if you believe that someone's life is really in danger. This is the usual "urgency" signal for a serious medical emergency. (You would not expect to use the "distress" signal of a Mayday for a medical emergency unless your vessel is also in imminent danger of sinking or stranding). If you feel you need to call a Pan Pan, follow your own standard procedures. The Pan Pan will be heard by the nearest VMR and by any ships within range. If you are within 20nm of the coast a coast radio base station will respond and co-ordinate the help of other vessels which will come to your aid. It is proper practice when a Pan Pan is heard by any vessel, to wait until a coast radio station responds first. The coast radio station, usually the VMR, will also consult with medical advisors regarding the possibility of medical evacuation. In serious medical cases a medivac by helicopter or fast boat may be required. The SARCC (Search and Rescue Co-ordination Centres) will organise this after receiving appropriate medical advice.

If no VMR responds then other vessels should respond. The vessel nearest the vessel in distress or the one most capable should co-ordinate the communication.

## **15.7 Using flares and your EPIRB**

A back up hand held battery operated VHF is recommended. However, in the event that you have lost all electronic communications, and you need urgent medical help, it is advised that you let off a red, orange or parachute flare to attract the attention of any vessel you see. Do not use the white flare which is for anti collision and may have the opposite unintended consequence of chasing a vessel away. When you feel that a person or your vessel is in grave and imminent danger and you cannot send a Pan Pan you can activate your EPIRB and SAR (Canberra) will respond. Hopefully your medical problems will never get this serious but for your information the process is explained below.

## **15.8 AMSA (Australian Maritime Safety Authority)**

*Rescue Co-ordination Centre (RCC or SARCC) → Search and Rescue (SAR) operation*

On receiving a distress signal or being notified of a missing seagoing vessel, RCC Australia will take action to establish the safety of the vessel or source of the signal. This action may include:

- a) coordinating a search and rescue with assistance from organisations as appropriate, such as volunteer marine rescue groups, the Bureau of Meteorology, the shipping industry, fishing cooperatives, the Defence forces, emergency medical helicopters, state Police services, state emergency services, the Australian Communications and Media Authority (ACMA) and the aviation industry.

or

- b) passing coordination to the appropriate regional police organisation to conduct search and rescue operations within their jurisdiction.

Traditionally, Australia's SAR authorities have been alerted to emergency incidents through radio distress calls ('maydays'), flare sightings, calls from worried friends or relatives, or the more formal overdue ship reports.

This in turn has usually required a painstaking evaluation of many variables such as weather in the area, wind, currents, survival gear carried, and of course, the skipper's experience and likely intentions. Naturally, these sorts of considerations remain very important whenever a search and rescue operation is being mounted.

Today's technology takes most of the 'search' out of search and rescue through the utilisation of satellites and modern radio distress beacons. As the orbiting satellites pass overhead, signals are detected and relayed back to the RCC Australia through ground receiver stations located at Albany, Western Australia, Bundaberg, Queensland, and Wellington, New Zealand.

So make sure your EPIRB has current registration and up to date contacts. And, make sure you can turn on your PLB in the complete dark, by feel. Practice this regularly.

**VHF radio changes** – There are two big changes made to VHF radio coverage for mariners. Firstly, all efforts are being made to provide a 24/7, all coast coverage Volunteer Marine Rescue Service.

Secondly, the provision of relay or repeater VHF stations allows for greater distances to be covered at sea. (See Rob's passage Planner for all the details). These repeater channels are not for chatter but are for important administrative communications with VMRs. In some cases you can get better coverage from repeater channels than from channel 16. So, to contact a VMR you will usually be able to use VHF channel 16. However, there will be times when you need to use your mobile phone or the repeater network which has wider coverage in many areas.

***So, every morning in your log, write down the phone numbers and the VHF repeater stations for the VMR services which you will be encountering that day.***

**HF radio changes** - Changes have been made to the Australian radio-telephony services and no longer is there aural listening on the HF distress and urgency channels. Contact must be made by DSC first to attract attention. After you have established contact you may then also use your emergency alarm signal, although this is probably not necessary. But remember, if you do not have DSC, then no-one at the National Maritime Communications Centres will hear you. Notwithstanding a number of coast radio stations still maintain a listening watch on the HF distress, urgency and safety channels.

### *What to say:*

Give a brief overview – jot down a few points before you call anyone

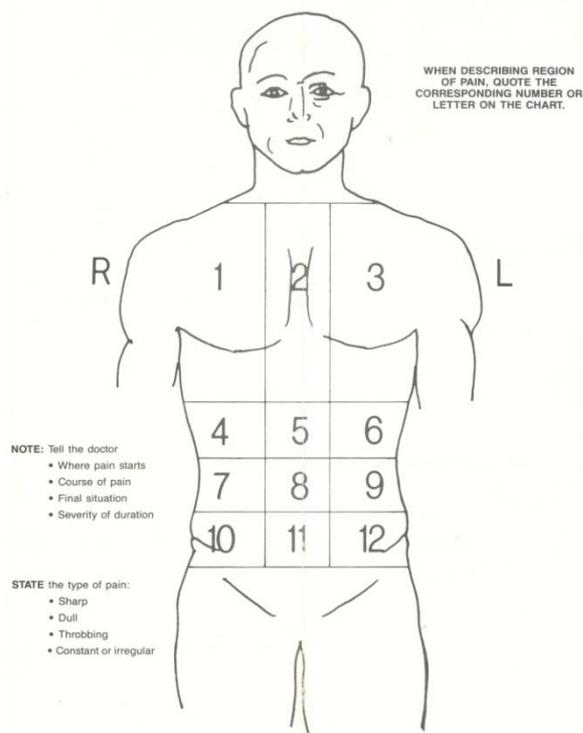
- ⇒ eg. We are on our yacht, "Blue Water", 2 hours south of Airlie and my wife is having chest pains, I think she might be having a heart attack. There is no-one else on board, just the two of us. I want some medical advice. Can you help?

Details – depending on each situation, details might include:

- ⇒ When did the illness start or injury occur, how did it start / happen
- ⇒ What is the major problem now, where exactly is the pain/problem

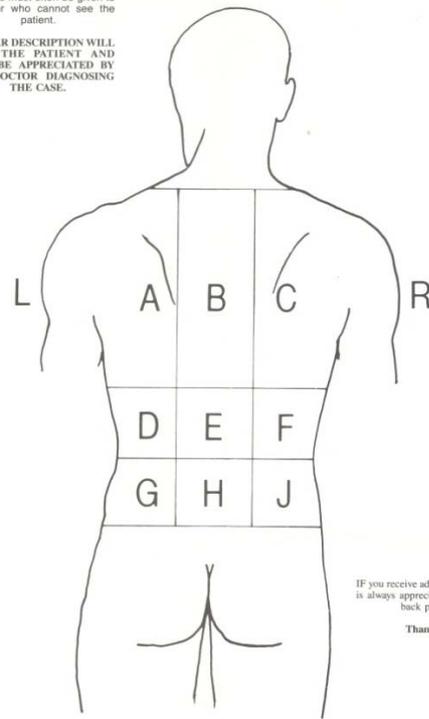
- ⇒ What is your exact position, what is the weather
- ⇒ How fast can you travel
- ⇒ You may need to use the RFDS “Where does it Hurt” guide below

## WHERE DOES IT HURT?



THE nature of the Royal Flying Doctor Service of Australia means that a description of injury or illness must often be given to a doctor who cannot see the patient.

A CLEAR DESCRIPTION WILL HELP THE PATIENT AND WILL BE APPRECIATED BY THE DOCTOR DIAGNOSING THE CASE.



### 15.9 If you want some advice, you can call one of these

Who	Contact	Type of advice	Reliability	Timeframe
Own GP	daytime practice phone, private number	Basics Medication Severity advice (triage)	V. good	Varied. Usually it's on a call back basis
"healthdirect" Australia Nurse based, computer driven, phone services	1800 022 222 (Qld not in yet, due sometime 2011)	Basics Severity advice (triage) Specific conditions advice Where to find other health services	V. good	Immediate, 24/7
Local Hospital Emergency	Use call connect 12456 or 1234 (text or human)	Basics, triage and where to find other services	Good	Varied
Own specialist	daytime practice phone, private number	Basics Medication Severity advice (triage)	V. good	Varied. Usually it's on a call back basis
Family member, nurse or doctor friend		Free!!	Varied	Varied

### 15.10 If you are concerned, you should call one of these

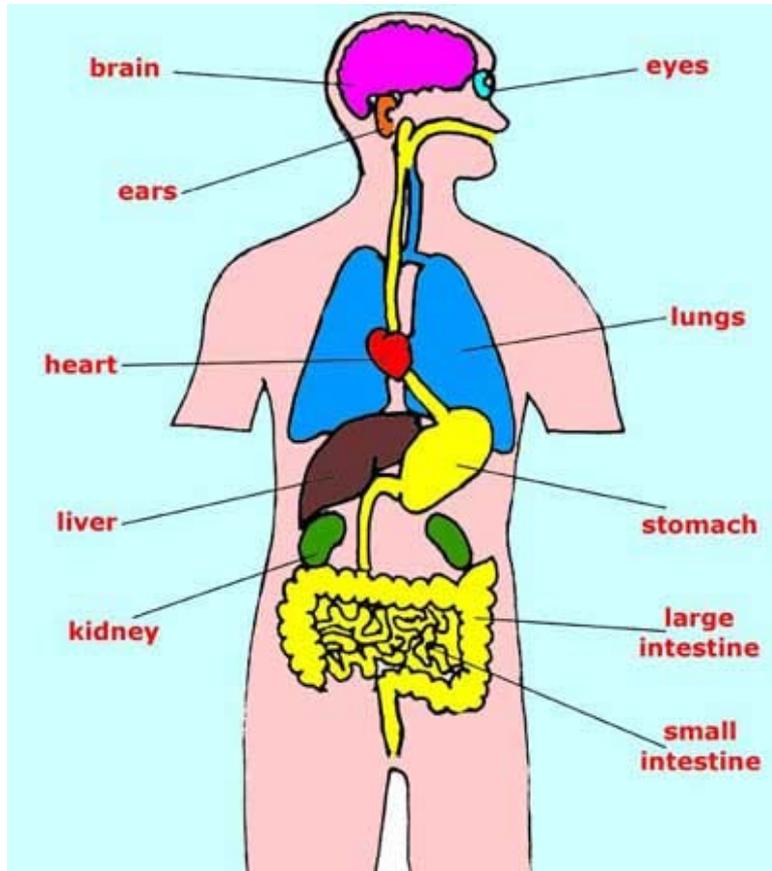
Who	Contact	Type of advice	Reliability	Timeframe
"healthdirect"	1800 022 222	Triage, specific conditions advice. Where to find other health services	V. good	Immediate
Royal Flying Doctor Service	"call connect" or 08 8088 1188 07 4040 0500	Nursing or medical advice	V. good	Usually immediate but not always.
Volunteer Marine Rescue	VHF 16, 67 or local repeater	Non specific on health matters but better on nautical matters	Range from poor to amazing	Usually prompt

### 15.11 If you are alarmed, you must contact one of these

Who	Contact	Type of advice	Reliability	Timeframe
Volunteer Marine Rescue	VHF 16, 67 or local repeater or VHF DSC	Non specific on health matters but better on nautical matters Part of National Search and Rescue	Range from poor to amazing	Usually prompt
Royal Flying Doctor Service	"call connect" or 08 8088 1188 or 07 4040 0500	Nursing or medical advice	V. good	Usually immediate but not always.
All emergency services	Dial 000 (only) Give nearest port and lat/long	They can arrange an ambulance only. They do talk to Search and Rescue	V. good	Immediate
AMSA Search and Rescue	1800 641 792 or EPIRB, or HF DSC	Search and Rescue plus medical trauma	V. good	Immediate depending on urgency though
Nearby vessels	Pan Pan	Be prepared to give location and nature of problem	Good	Usually prompt

## 16 Managing medical illnesses

*What might go wrong?*



### 16.1 Infections, illnesses and other medical emergencies

- Brain
  - a) Strokes and TIAs (transient ischaemic attacks)
  - b) Odd behaviour
  - c) Seasickness
- Eyes
  - a) Eyes infection and trauma
  - b) Eyes medical emergencies
- Ears, nose and throat
  - a) Colds and bacterial infections
- Heart
  - a) Chest pain, angina and heart attack
  - b) Treatment of cardiac chest pain

- Lungs
  - a) Respiratory and Ear Nose and Throat
  - b) Asthma
- Gastro intestinal system
  - a) Vomiting and diarrhoea
  - b) Abdominal pain
  - c) Diabetes
- Kidney
  - a) Urinary tract infections and other problems
- Skin
  - a) Skin infection and trauma
  - b) Skin damage
  - c) Sunscreens
- Mosquito borne infections
- Allergies and anaphylaxis
- Trauma

## 16.2 Strokes and TIAs (transient ischemic attacks)

What is a TIA and a stroke and what causes it?

⇒ It is a loss of brain function caused by a loss of oxygen in the blood to the brain.

Transient Ischaemic Attack is a brief (typically less than one hour) episode of loss of brain function which returns to normal. A stroke is a loss of brain function which doesn't return to normal except maybe after long term rehabilitation. Strokes and TIAs are caused by a lack of oxygen to the brain usually because the blood vessels are blocked. There is usually hardening of the arteries from high cholesterol, high blood pressure or just bad genes. Less often strokes may also be caused by internal bleeding in the brain, a haemorrhage.

- Symptoms may include weakness of an arm, leg, face, tongue, numbness, loss of speech, loss of consciousness, collapse, disorientation, double or blurred vision etc

TIAs are common but anyone who has a TIA has a 10% risk of a stroke in the next 4 days. As a result, it is important to be aware of the signs and symptoms of TIA and seek treatment as soon as possible. Both a stroke and a TIA begin with the same symptoms but obviously we won't know if the person will fully recover quickly (TIA) or is actually having a full stroke.

- **A TIA and a stroke are medical emergencies. You must contact shore based emergency services and get to a hospital asap. At times the shore based rescue teams will send a helicopter to retrieve someone having a stroke.**

Even if the symptoms resolve, there is a high risk of stroke after TIA and prompt imaging and treatment is needed in either case. Excellent treatment is available for stroke and TIA but the treatment depends on the cause and the cause can be only identified on CT imaging, MRI or angiography and these are only available in well equipped hospitals. The key objective is to get

the patient to hospital as fast as possible and to contact a shore based emergency service to be ready.

- You will probably be advised to give the patient an aspirin. Also give rest, reassurance and emotional support.

Most people having a TIA or stroke on land are terrified, let alone being on the high seas, hours from help. As carer you will need to be calm, sympathetic, reassuring, comforting and confident. Keep in regular contact with shore based support.

- Prevention

Your medical check will cover most of your risk factors such as being an older person, previous heart disease, high BP, smoking, diabetics, those with high cholesterol, heavy alcohol intake, previous TIA, lack of exercise, obesity, past history or family history of blood clots. Most people with a risk of TIA and stroke take blood thinning drugs such as aspirin, persantin, clopidogrel, warfarin etc. as well as dealing with any other risk factors.

### 16.3 Odd behaviour

There are many causes of odd or difficult behaviour which may arise on a boat. A number of medical conditions such as emphysema, low blood sugar, transient ischaemic attack, epilepsy, and even seasickness can cause odd behaviour. Mental health problems such as depression, mania, psychosis, drug or alcohol intoxication or withdrawals may cause challenging behaviours. Unless you are certain you know the cause and can fix the problem it is best to be conservative and tread gently.

- 1) Be calm yourself, do not aggravate the situation, do not argue and don't expect rational thoughts or behaviour. Make way to port hastily.
- 2) Do not give medications unless you are advised to by a doctor.

Be supportive and comforting if this is acceptable. Be aware that someone acting irrationally is in danger of going overboard accidentally or even deliberately.

⇒ If the person becomes aggressive you will need urgent help and advice.

Restraining someone in these difficult circumstances will be almost impossible so do everything you can to be passive and not to inflame any anger.

### 16.4 Seasickness

Seasickness facts;

- 1) "Mal de mer", for ever the scourge of the sailing world has no quick fix.
- 2) Your middle ear and stomach conspire together to ruin your day.
- 3) Seasickness affects 90% of the population.
- 4) Seasickness affects children more than adults and women more than men.
- 5) Susceptibility decreases with age.
- 6) Drugs work very well and are the mainstay of treatment but are very variable in their success and side effects.

- 7) In regular seas, seasickness vanishes after 48 hours.
- 8) Good preparation can reduce susceptibility.

Good ideas to reduce susceptibility to seasickness;

- 1) Low fat diet and no alcohol 24 hours before sailing.
- 2) Lying at anchor at Coasters the night before sailing.
- 3) Good sleep, no partying before sailing.
- 4) If suited, start medication the night before sailing – see below.
- 5) Avoid going below unless necessary and only for short periods
- 6) Steer – keep gaze on horizon
- 7) Avoid close work – plotting on charts, reading, dwelling on instruments, cooking.
- 8) Prepare light food beforehand, easy to hand – sandwiches, snacks, lollies and nuts etc
- 9) Keep well hydrated with clear fluids.

Medications can be idiosyncratic and inconsistent in efficacy and side-effects.

It is quite difficult to be sure of what works for you every time because so many factors influence your propensity to seasickness. Every leg of your journey is different and every sea is different too. People will often get a favourite and then find it doesn't work one time. Maybe the sea was rougher, maybe you had not been sailing for a long time. Be optimistic and patient.

There are basically two classes of seasickness medications available over the counter. Those from the antihistamine family (Avomine, Dramamine) and those from the scopolamine / hyoscine family (Kwells, Scop patches).

Scopolamine / hyoscine family drugs (Kwells, Scop patches) are excellent anti-motion drugs but have side effects of blurred vision, urinary retention (men only, can't pee) and some drowsiness.

Antihistamines (Avomine, Dramamine) are reliable and well used. Their main side effect is drowsiness and dry mouth. They have a short half life which is possibly an advantage if you are trying to top up your medication.

Drugs from the two classes can mix but their side-effects are similar and additive so be careful. Travacalm Original is a cocktail of an antihistamine (dimenhydrinate), hyoscine and caffeine. As a sufferer of start-of-trip-seasickness, this has been my (Tim's) drug of choice for many years. Take ½ to 1 night before sailing then ¼ to ½ to 1 tablet every 2-4 hours. Keep taking for 24- 48 hours.

Kwells (hyoscine) are what is in most RFD liferafts.

Stugeron and Stemetil are relatives of antihistamines. Be aware that Stugeron has a long half life and so drowsiness can be hard to shake. Stemetil is available in suppository form which is a must for long trips. Maxalon and Ondansetron are not effective.

All these drugs have their supporters and their skeptics. Scientific evidence supports their efficacy but not for everyone, everytime!

Ginger tablets are popular as a preventative for mild seasickness and have no negative side-effects but they are ineffective once seasick. Recommended dosage is 1,000mg 30minutes before departure.

Eventually the magic of accustomisation to the sea takes over and you can go down below, prepare meals, read at your leisure – wonderful!

## 16.5 Eyes – injury

Don't take risks with eyes and be extra cautious.

Eyes are complicated and many different things can go wrong including infections, trauma and other medical emergencies. It is not easy to give a reliable, short guide on the subject. You must be prepared to contact experts on shore if you have any of the serious symptoms we list below, plus, if you have any concerns at all about what might be wrong. To assess any eye problem determine:

- What is the history? Sudden onset, gradual, traumatic?
- How is your vision affected? Not much, significantly, partially? Is daylight irritating?
- How does the eyeball feel? Is it gritty, painful, discharging, has the sensation of a foreign body, tender to touch etc?

### Foreign body

The sensation of something in the eye is quite common and usually abates after copious tears and resting of the eye. You will need to make a guess as to what may have entered your eye. Was it dust, an insect, rust dust blowing in from some deteriorating metal, or from grinding and drilling, glass from a shattered glass etc. If you think that you may just have some dust or trivial airborne matter in your eye, then get someone to look carefully at your eye. Pull the lower lid down and evert (turn up) the upper lid if you can. Use a magnifying glass and a bright light to have a good look. Wash the eye with lots of saline.

- a) Wait an hour. If after doing this there is still the sensation of a foreign body even if you think that nothing serious has entered your eye, you will need to have a doctor examine your eye. You should proceed to the next port directly.
- b) If however there is a possibility that rust, glass, metal or any other sharp or high speed object may have penetrated your eye then make port asap.

### Blow to the eye

Any injury to the eye can be serious. If there are any symptoms such as blurred vision, double vision and pain more than trivial then urgent help should be sought.

## 16.6 Treating red eyes – conjunctivitis

### Conjunctivitis – allergic, viral, bacterial or chemical.

Conjunctivitis presents with one or two red eyes. The pain is mild but the eye feels irritated. Vision is virtually normal. There is no history of trauma. Allergic conjunctivitis is typically itchy and associated with hay fever, runny nose or allergenic make-up. Viral conjunctivitis is common and is not responsive to antibiotic treatment. Bacterial conjunctivitis tends to develop into a very red and scratchy eye with a lot of sticky, pus-y, discharge. The eye will be irritated by the bright light and might ache somewhat. Chemical conjunctivitis may be mild, for example from soap or severe from solvents or fuels.

Treatment:

- For allergic conjunctivitis use antihistamine eye drops or oral antihistamines. You can use Visine to relieve the discomfort and reduce redness but only for a maximum of 4 days.
- For viral conjunctivitis, same as for allergic conjunctivitis - if present for > 36 hours will need specialist review.
- For bacterial conjunctivitis you will need antibiotic eye drops during the day and eye ointment at night. (see details later) Cleanse the discharge.
- For chemical conjunctivitis you must flush the eye with saline using up to a whole eye wash bottle full. Depending on the chemical you may need to seek urgent medical treatment or you may be advised to rest the eye. If resting the eye, you can apply an eye pad in this situation and rest both eyes shut, checking vision, comfort and pain every hour initially and two hourly if settling.
- If one or both eyes do not improve with rest, cleansing and antibiotics if appropriate, within 12 hours you must seek medical help.

## 16.7 Eye medical emergencies

There are many eye symptoms which could affect the sailor and require urgent attention. Mostly it would be self evident that urgent medical assessment is needed.

- You might have heard of glaucoma, macular degeneration, retinal detachment, herpes keratitis, shingles and optic neuritis.

These are some of these conditions which can become quite common as we age. Symptoms of these might include:

- a) Sudden loss of vision – partial or in one eye.
- b) Slow loss of vision in one or both eyes – over 24 hours
- c) Partial loss of a field of vision – in one or both eyes. Transient or persistent.
- d) ‘Cobwebs’ in your visual field – one or both eyes
- e) Straight lines looking waving instead of straight from some angles.
- f) ‘Flashes’ in either or both eyes – like fluorescent lights gone bung
- g) Eye pain, tenderness
- h) Normal light really irritating the eye (photophobia)

All of the above are suggestive of retinal or vascular (blood vessel problems) events or serious infections with potentially disastrous complications. IF YOU HAVE THESE SYMPTOMS, SEEK MEDICAL ASSESSMENT ASAP.

## 16.8 Chest pain, Angina and Heart Attacks

What is cardiac pain, angina, and heart attack?

Cardiac pain is caused by your heart being short of oxygen and the pain is known as angina. Sustained shortness of oxygen to the heart can cause part of your heart muscle to die. This is a heart attack or myocardial infarction. In people with coronary heart disease, the coronary arteries which supply the heart with oxygenated blood become clogged with fatty deposits.

Blood flow to the heart muscle gets blocked and the heart is starved of oxygen. During periods of exertion this is more likely to become a problem as the heart is beating faster and also needs more oxygen. This causes heart pain (angina). If the blockage is prolonged and not opened by nature, by drugs or by an emergency operation, then part of the heart muscle will die due to this lack of oxygen. This is a heart attack. Thus a prolonged untreated angina episode leads to a heart attack. After a heart attack the heart muscle is weak and prone to irregular heart beats and heart failure.

⇒ **You must seek shore based help for best outcomes.**

The first hour of a heart attack is known as the "golden hour." If you get help during that first hour, or as soon as possible, then your chances of a full recovery are greatly improved. Yet many people hesitate to get help when they first experience symptoms. They're afraid of the embarrassment of asking for help and finding that nothing is wrong. So, it is important that you know the symptoms that may indicate that a heart attack is in progress.

Many of the same symptoms of heart attack can be brought on by digestive disturbances or other less serious conditions. But only sophisticated medical tests can determine for sure if you're having a heart attack. So don't hesitate to seek help urgently whether on land or at sea.

### *Symptoms of angina and heart attack.*

- Chest pain

The pain is usually described as a squeezing, a tightness, pressure, constriction or fullness in the chest or a band-like sensation, a knot in the centre of the chest, an ache or heavy weight on the chest. The pain is often in the left side of the chest radiating down the left arm and into the jaw. It can however be felt in other part of the chest and arms. Angina usually comes on after exertion and might settle with rest.

Some chest pain is not likely to be cardiac pain eg pain that is just at one point especially if the point is tender to pressure, pain that grabs your breath while breathing in and out, indigestion pain after a big meal or lying down.

However, cardiac pain is a great mimicker and any chest pain which lasts more than a few minutes must be taken seriously. Don't be afraid to call for help and guidance.

- Other associated symptoms

Patients having severe angina or a heart attack may have other symptoms in addition to (or even instead of) discomfort in the chest. These can include:

- a) Shortness of breath.
- b) Nausea, vomiting, or burping.
- c) Sweating and cold, clammy skin.
- d) Irregular or rapid heart rate or palpitations.
- e) Fatigue, dizziness or fainting.
- f) Fear, anxiety.

Other conditions which may cause cardiac like pain:

- a) Chest wall pain from muscle strain, costochondritis (very common), shingles.
- b) Gastric problems such as ulcers, or reflux
- c) Lung problems such as pneumonia, pleurisy, pneumothorax, pulmonary embolism.
- d) Psychological stress and anxiety.

Prevention

Don't let it happen to you. Get all your risk factors assessed and deal with them. The risks are the same as for stroke. High blood pressure, high cholesterol, diabetes, smoking and obesity can all cause heart attacks but if you manage your risk factors then will be at a lower risk of a sudden surprise angina or heart attack.

## 16.9 Triage and treatment of cardiac chest pain

Get a history to eliminate minor problems such as muscle strain from lifting, coughing or posture, mild indigestion etc. Take mild analgesics or antacids as appropriate.

If pain has signs and symptoms of cardiac pain and has lasted more than a few minutes then treat as if it is angina. No harm will be done.

Take one aspirin and sub-lingual Nitro lingual spray which you will all carry on board. Call for advice from shore based services. Repeat sub-lingual Nitro lingual spray (max twice) or tablets (max 4) ... until pain subsides. Patient must rest completely.

If the spray does not relieve the pain, then no matter whether the cause is a heart attack or not you will need to seek further urgent advice and rush to port for thorough investigations. You can never be too cautious with chest pain.

Note: Anginine sublingual tablets deteriorate quickly and do not store well. You should refresh your stores every season or more often if you have opened the bottle. The spray has a better shelf life. Also, you must prime the spray pump before using it.

## 16.10 Ear Nose and throat infections

Coughs, colds and sore throat usually settle.

You would hope to be less prone to colds when avoiding big crowded cities but once someone on board gets a cold you may all go down with it. For a cold alone antibiotics are absolutely useless, but treat yourself to paracetamol, ibuprofen, cough and cold medicines, fluids etc and whatever makes you feel more comfortable. Be aware though that cough and cold medicines are quite powerful and affect your ability to concentrate, to stay awake and even can give you urine retention.

- Antibiotics are not useful for the cold itself as it is caused by hundreds of different viruses but as a consequence you may develop sinusitis, middle ear infection or a productive cough (bronchitis) which are bacterial. These usually do benefit from antibiotics.

Which antibiotics to choose for all the various illness will be discussed together later in the session. Sinusitis is associated with green mucous from the nose and painful cheeks, headache and watery eyes. Middle ear infections are seriously painful but not as common in grown ups as in kids.

## 16.11 Respiratory infections and illnesses

Antibiotics are not useful for the ticklish cough of a cold.

For a cold, antibiotics are absolutely useless, but treat your self to paracetamol, ibuprofen, cough and cold medicines, fluids etc and what ever makes you feel more comfortable. A lot of these medicines have side-effects - beware.

- Bronchitis usually needs antibiotics for faster relief.

Mild bronchitis gives a productive cough with sputum and generally uneasy breathing. An acute exacerbation of COPD gives a productive cough and increased shortness of breath. These are usually, although not always, a sign of bacterial infection.

- Fevers, chest pain, coughing sputum and wheezing or shortness of breath from mild exertion may mean severe bronchitis, pleurisy or even pneumonia. Antibiotics are required.

Don't take risks with these symptoms. These are the symptoms of a lower respiratory tract infection and will be more severe than a cold or the upper respiratory infections like sinusitis and sore throats.

- If the symptoms of high fever, severe coughing and shortness of breath are not settling within 24hrs of antibiotics, analgesics, lots of fluids and even steam inhalations then seek help promptly.
- **Prevention** - asthma and chronic bronchitis management plans, and vaccinations.

If you have had episodes of asthma, chronic bronchitis (COPD) or other recurrent respiratory disease, be fully vaccinated and prepared for what might happen if you get an infection as a worst case scenario.

## 16.12 Asthma

Anyone on board with known asthma should have an asthma management plan and a knowledgeable buddy in case their health deteriorates.

If your breathing is difficult, you have increased sputum or your peak flow is down, increase your medication according to your experience and plan. If you are helping someone with asthma, get the blue puffer and give them four puffs, preferably through a spacer. Wait four minutes and repeat. Repeat as often as needed. Side effects of shaking hands will indicate when maximum dose has been received.

If your asthma is causing you difficulties doing your duties don't be embarrassed to tell the skipper. Take time out to get sorted. Commence steroids and possibly antibiotics earlier rather than later when at sea.

Asthma can become quite severe and some people "go downhill" really quickly. If the person is finding that their medication is not relieving their chest tightness, that they are vomiting, they

have a fever, that they are unable to breathe except by sitting up, they become listless or distressed ... then you will need to seek urgent assistance and head for a port.

## 16.13 Vomiting and diarrhoea

*Common causes of vomiting and/or diarrhoea:*

- Seasickness
- Viruses
- Food poisoning
- Stress or nervousness
- Pregnancy
- Medications
- Diabetes
- Migraine headache

*Treating self limiting causes of vomiting and diarrhoea.*

- Stop eating solid food for a few hours or until you feel better.
- Drink small sips of water or a sport drink.
- Avoid carbonated beverages.
- You can take paracetamol for fever or pain.
- You may choose to take Lomotil or Immodium – for diarrhoea.
- Take sports drinks, clear water, weak tea, ice blocks, or clear chicken or beef broth for the next 12 - 24 hours. Start with small sips and slowly increase the amount as you start to feel better.
- If 24 hours pass and you are still vomiting or have diarrhoea, you should try a rehydration drink such as Gastrolyte to replace body salts.
- Watch for early signs of dehydration such as dry mouth, sticky saliva, not peeing as often, dark yellow urine.
- Keep drinking lots of fluids until your symptoms are gone, probably within 12 - 24 hours.
  - Avoid eating spicy, milky or fatty foods until you feel completely recovered.

*When is it more than just a bit of gastro?*

- You notice blood in your vomit or stool. Old blood may look very dark.
- A fever that continues, even when treated with paracetamol, or ibuprofen.
- Abdominal pain that continues to worsen.
- You develop a headache, sleepiness, and/or a stiff neck.
- The vomiting becomes really bad or forceful.
- Vomiting and diarrhoea lasts longer than 24 hours.
- Dehydration occurs and vomiting is continuing.
- Treating more severe causes of vomiting and diarrhoea.

- ⇒ Treating more severe illness will probably require hospitalisation. Therefore head for shore.
- ⇒ You may administer stemetil suppositories to help settle the vomiting. See “seasickness” for details.

## 16.14 Abdominal pain

When to be concerned about a bit of a tummy ache?

- 1) If the pain lasts a short time and doesn't recur then it is unlikely to be any sort of “storm” brewing.
- 2) If you have pain that is severe, constant and dull, severe and knife-like or severe cramping which last more than an hour then you should be concerned.
- 3) If your stomach is very tender to touch, you have bloody diarrhoea or black stools, you are vomiting blood or you have a fever as well, then you should be alarmed.

*What serious conditions might be brewing? You may have:*

- a) Appendicitis
- b) Infectious diarrhoea
- c) Bleeding from the bowels
- d) Perforated appendix
- e) Diverticulitis
- f) Ulcer
- g) Pancreatitis
- h) Bowel blockage
- i) Gall stones
- j) Kidney stones
- k) Inflammatory bowel disease
- l) Kidney or bladder infection

*Treatment for possible serious abdominal pain:*

- 1) Call for advice and estimate how long before you can reach shore.
- 2) Usually it is best to give the patient nothing orally. If however you are more than four hours from help they can have clear fluids.
- 3) Give pain relief. Do not give anything else unless advised to by a doctor.

## 16.15 Diabetes

Diabetes results from a failure of the body to produce or utilise insulin.

Two serious medical emergencies can arise in people with diabetes, being hypoglycaemia (too little sugar in the blood) which occurs only when you are taking medication (oral or insulin) for your diabetes and hyperglycaemia (too much sugar in the blood) – which is not common in

people with diagnosed stable diabetes and usually develops slowly. It is marked by a great thirst and need to pass urine frequently.)

- Signs and symptoms of a “hypo” (low blood sugar) include confusion, headache, pale skin, racing pulse, abnormal behaviour, weakness, sweating, aggression and later unconsciousness.
- Treatment of hypoglycaemia is easy. Give sugary drinks. Repeat frequently until the patient feels well again.
- If severe administer a glucagon injection.

## 16.16 Urinary infections and other conditions

Prevention of acute problems for anyone with underlying problems.

Plainly, if you have underlying problems of prostatic enlargement, bladder cancer, erectile dysfunction and for women stress incontinence and recurrent urinary tract infections then you will need to address these before you set sail. Carry appropriate medications.

Men over 50 should have at least 2 PSA (Prostate Specific Antigen) cancer detection blood tests before departure. Interpretation can be difficult and you should discuss this with your GP.

Also if you take Viagra, or similar, be aware of side effects.

Kidney disease is common in diabetics but rare in others. There are few symptoms until late stage. Family history and previous kidney problems should alert most people.

Having routine regular general blood checks which include routine biochemistry, creatinine and urea and urine testing will usually detect kidney disease before it is a real problem.

- Common problems are cystitis, prostatitis and vaginal infections (thrush).
  - Cystitis

This is characterised by burning on passing urine, frequency of peeing and urgency and often accompanied by fevers, chills and feeling decidedly unwell. You will need antibiotics in every case. Urinary alkalinisers may ease the burning but don't kill the bug. To be thorough, collect a urine specimen in a sterile specimen jar for later analysis, put it in the fridge and start your antibiotics asap.

- Prostatitis

As above for cystitis. Symptoms are very similar but males often have discomfort even when not peeing. Collect your specimen and start your antibiotics.

- Thrush

Thrush is common in the tropics and after taking antibiotics. Most women are aware of the symptoms and you should take an appropriate cream or pessaries with you. Don't wait until the signs are obvious. Your vagina normally has smooth almost clear mucous whereas with thrush

you get little spots or clumps of white “mucous” easily noticed on your finger if you can check inside your self. Treat at the first sign.

- **Kidney Stones (first time victims will require urgent attention)**

You will probably know already if you have kidney stones because of the severe pain they cause. If you are unlucky enough to get them first time while cruising, the pain in the loins is so severe you will seek treatment on your own accord. You will need pain relief and tests within 12 hours.

Renal Colic is caused by ‘kidney stones’; little rocks of calcium or oxalate or urate varying from 0.5mm to larger than 30mm. The smaller stones pass down the ureter towards the bladder and as they do so cause (very) severe pain in the loin region left or right. You will need medical management soon!

The pain is severe enough that your crew will have to manage the boat and you will be unable to concentrate on pilotage. This is another good reason for taking along strong pain killers.

- **Painless Haematuria (blood in the urine)**

This is a sign of possibly more serious waterworks trouble and should be investigated at the earliest opportunity – within days please. Collect a urine specimen and refrigerate for later analysis.

- **Inguinal or femoral hernias.**

These can cause serious potential problems and must always be assessed by a skilled surgeon. If you develop a lump in your groin or upper thigh while cruising, even if it is coming and going, do not ignore it. Seek advice as soon as practicable and **if the lump becomes painful and the swelling is not coming and going away any more, rush to get help.**

## **16.17 Skin infection and injury**

Prevention – your skin is the largest organ in your body and designed to withstand amazing violations. However, its smart to give it some help. Wear gloves, use barrier creams for your hands and feet and apply sunscreen and bug deterrent.

⇒ Skin infections are caused by nasty bugs

These generally come from minor (or major) trauma – cuts and nicks we all get from deck fittings, rope burns, dinghy handling, sharp edges on clevis pins and rigging screws, coral, oysters etc which in the tropics can quickly become infected. Although salt and water is used to clean most wounds, sea water is teeming with micro-organisms which can cause infections and even enjoy the salty environment we secrete.

- Clean the wound by washing the cut or abrasion well with antiseptic solution – betadine or savlon (cetrimide) solution or just water. The purpose is to get the wound CLEAN. If there is dirt and debris in the wound from oysters or rock or particularly coral, it must be cleaned scrupulously - use a soft brush if necessary but get ALL debris and foreign material from the wound.

- Dry, add a drop of Betadine and dress the wound with sterile, non-stick dressings you have in your Medical Kit, Melolin or similar. Note, a few people are allergic to iodine and Betadine. Try some before you depart to check.
- Inspect the wound regularly. Left unchecked a wound infection could develop into blood poisoning which can quite quickly be fatal. Watch carefully for the following signs of infection starting and later spreading.
  - a) Redness around the wound
  - b) Increasing pain of the wound
  - c) Weeping of the wound
  - d) Red lines coursing up your limb, tracking
  - e) Fever and chills

If ANY of the above occur, the next step in infection control is necessary. Commence antibiotics immediately.

⇒ If ALL the above are present, the patient will need to be in hospital and transfer there will be needed in the shortest possible time.

Also clean with antiseptic solutions and re-dress wound daily using this opportunity to inspect and map progress. Mark edges of the redness with laundry marker to assess improvement or not. Photograph the wound each dressing change to record progress. You should expect the angeriness of the wound to improve within 24 hours of antibiotics and there should not be any further deterioration or spread of redness.

If you have been using antibiotics for 24 hours and there is minimal improvement then you must also seek urgent help.

**Coral cuts should be treated with antibiotics from the start** – Coral is a living organism teeming with a balanced micro-environment of algae, bacteria and parasites. They quickly colonise your very skin and can cause serious trouble - If you have no penicillin sensitivity, use dicloxacillin (or flucloxacillin). You should carry on board at least two courses of these for every six weeks you are cruising. As with all antibiotics, please discuss their use with your GP before you go.

**Avoid insect bites.** Mosquitoes and ticks can carry nasty viral and rickettsial infections. Be aware of danger areas and use tropical strength repellent containing DEET for best results as well as cover up. See section 16.21

## 16.18 Midges

Midges are commonly known as sandflies or no-see-ums and are so small they look like very tiny black specks of dirt on your skin. You don't even feel the bite but much later a small red lump appears followed by the agonising intense itch that causes one to scratch and scratch without relief.

Midges are found in mangroves, estuaries, tidal flats and sandy areas like Fraser Island. The biting activity is mainly limited to dawn and dusk but they can attack at any time day or night if the weather is hot, humid and still.

#### Prevention

- Long pants and long sleeved shirts block attack but exposed ankles, feet and wrists must have some type of repellent applied.
- Apply an insect repellent containing DEET as this is effective against midges and mozzies. Whilst midges don't carry nasty viruses, mozzies in Far North Queensland can carry Ross River and Dengue Fever viruses.  
Insect repellent containing DEET, eg Bushmans or tropical strength Aeroguard are best sprayed onto the skin, except the face, then rubbed onto the skin to ensure complete coverage. For the face, spray DEET into your hands and then apply to your face avoiding your eyes and lips. It is advisable to wash insect repellent off your skin with soap and water at the end of the day.
- Midges don't like strong smelling oils, so if you don't like DEET you could apply a mixture of coconut oil, tea tree oil and lavender oil or use tiger balm. Have mozzie coils and citronella candles burning and attach fine mesh screens to open hatches. If you see tiny black specks in your cabin turn on a fan and sit in front of the breeze to keep the midges away from you. You might spray them with fly spray.

#### General treatment for the bite

To reduce the itch, try calamine lotion, Stingoes or a cream containing an anaesthetic compound. People who are hypersensitive to these bites may ask their GP about taking some prednisone to use for a few days to relieve the itch and hence avoid infection from scratching.

## 16.19 Skin damage

⇒ Salt Damage – rinse and cream.

Constant contact with seawater causes skin irritation and eventually raw areas and skin breakdown to ulcers. The racing fraternity revel in Gunwale Bum. If you are planning to sit on the rail for four or five days in shitty weather then you are crazy to start with. Us more clever cruisers prefer to sit more quietly in the cockpit sipping drinks. Nevertheless, frequent salt immersion and salt air dries and irritates the skin. Apply moisturisers, your favourite brand or simply Sorbolene in Glycerine. Wash off in fresh water frequently, especially after swimming and use moisturising sunscreens. If you are short of water, use baby wipes especially around delicate parts and feet. Remember serial dilution. Using a tiny bit of water to rinse twice is much more effective than using twice as much water to rinse once.

⇒ Sun, UV – A causes malignant melanoma, tanning and skin ageing.

UV – A penetrates deeply beyond the epidermis (the top skin layer) into the dermis and it is now known to cause serious damage. It causes immediate tanning. It was touted as safe tanning and hence sun beds were invented in the 80s. We now know better. Its strength is the same in summer and winter and it penetrates light clothing, glass and light hats. It compounds the bad effect that UV-B has on causing the more superficial skin cancers.

⇒ Sun, UV – B causes sunburn, tanning, BCCs, SCCs, skin ageing and makes Vitamin D.

UV – B does not penetrate beyond the very top layer of skin, the epidermis. Here it causes red sunburn and the more superficial skin cancers. It also probably exacerbates the tendency to melanomas. It causes delayed tanning through stimulating melanocytes to make melanin. There are minimal UV-B rays in winter.

### *Moles and skin cancers – beware:*

- Become familiar with the appearance of BCC, SCC and melanoma and have them treated as soon as you suspect one. Photograph any suspect moles, using a ruler in the picture to indicate size, for later comparison.
- If in doubt, have your GP do a ‘mole patrol’ every six to twelve months and before and after visiting the tropics.
- People who have familial dysplastic naevi (moles) and who have two or more relatives of any distance who have had melanoma, have a 100% risk of developing melanoma in their lifetime.
- The earlier that a melanoma is detected and removed the better your prognosis. So pay attention, check your own moles and get your GP or dermatologist to also check. Never be embarrassed to ask often about your moles.

## **16.20 Skin and sun protection**

Common sense sun exposure and sailing:

- Choose the broadest spectrum sunscreen with the highest SPF rating (30+in Australia) that suits your skin. (more details following)
- Apply the sunscreen 30 mins before exposure so it is absorbed into the epidermis.
- Don’t be stingy. You will need a teaspoonful for your face and this much again for each arm etc.
- Reapply every 2-4 hours especially when swimming.
- Wear close-woven long sleeved clothes or sun-specific clothing.
- Wear a hat which protects the ears – not a cap
- Have good canvas on your boat – dodger, bimini and awnings. But, just because you are in the shade don’t forget there are heaps of reflected rays on the water. Use sunscreen anyway, every day!
- Wear polarising sunnies to avoid corneal damage and pterygium.

Sunscreens – which one?

To be effective, a sunscreen needs to block both UV-A and UV-B and this can only be judged by careful reading of the active ingredients of your sunscreen. The “sun protection factor” (SPF) rating refers only to protection from UV-B radiation so it is important to choose a sunscreen labelled “UVA & B” or “broad-spectrum”. Currently the best UV-A reflectors that also block UV-B are zinc oxide and titanium dioxide. Zinc oxide has a long history of safe usage, remember “pink zinc” cream. It’s still a great product just hard to remove.

For good sun protection choose a product with a minimum of SPF30 plus zinc oxide or titanium dioxide. Read the labels to find the product that best suits you.

- Don't forget to check product expiry dates as ingredients degrade over time and in the heat.
- Well formulated products are made by "Hamiltons", "Ego SunSense", "Invisible Zinc" and "Soleo Organics". All product ranges have different formulations specifically designed for the face, body, sensitive skin, oil-free or water resistant.

For example:

1. Hamiltons Everyday Face is SPF30 and contains both zinc oxide and titanium dioxide;
2. Invisible Zinc uses only microfine zinc oxide, suitable for skin that is sensitive or allergic to chemical UV-B absorbers;
3. Hamilton Quadblock has a great 4 hour water resistant formula, essential for swimming in the tropics;
4. Soleo Organics has a 3 hour water resistant formula for dry, sensitive, allergic skin that is reactive to chemical absorbers;
5. Ego SunSense has specific face, sensitive skin, oil-free and water resistant products.

## **16.21 Mosquito borne infections**

Nasty viruses spread by Mozzies to Cruisers.

There are several mozzie-borne viruses sailors to the Coral Coast should be aware of – they make you sick, sometimes very sick and in some cases can kill you.

What are these Viruses?

### **16.21.1 Dengue fever-**

Dengue fever virus infects up to 900 people in Queensland each year. It is spread by the mosquito *Aedes Aegypti* which is widespread in Qld and regularly causes Dengue epidemics in coastal areas with high mosquito populations, from Townsville to Cooktown and the Torres Strait Islands. Dengue has become increasingly more common since 1940 and a surge since Cairns became an International Entry city in 1984.

#### **How sick do you get with Dengue?**

There are two forms of Dengue Fever.

Classic Dengue fever with sudden onset of fevers, headache, muscle and bone pains and rash. Incubation is 3-7 days and the illness last around seven days. Ongoing fatigue and lethargy can persist for several weeks but serious complications are rare.

Dengue Haemorrhagic Fever starts much like the classic form but after 2-7 days there is rapid deterioration with low blood pressure and cardiovascular shock and occasionally death. Skin bruising and other major bleeding problems arise and the patient needs intensive hospital management.

DHF is more prevalent in people who have had Dengue previously and one infection does not give lifelong immunity. There is no vaccine although an effective vaccine is close to human trials. No antiviral treatment is available. Treatment involves paracetamol, fluids and rest.

#### **How do I avoid Dengue Fever?**

Like all other mosquito-borne viruses if you don't get bitten by mozzies you don't get Dengue Fever.

- Use DEET insect repellent
- Wear long sleeved light coloured clothing particularly in the evenings
- Avoid perfumes – this increases mozzie attraction to you.
- Use mozzie coils and citrus candles which have been proven to reduce mozzie bites.

### **16.21.2 Ross River Virus –**

RRV is another mozzie-borne virus found along Queensland's coastal regions where mosquitoes live and breed. It is also widespread over Australia – RRV won't kill you but will make you quite sick and some people have several months of symptoms.

#### **How is RRV spread?**

The virus is carried by a number of common mosquitoes in mainland Australia. It is found all over the country and most common in tropical coastal regions with salt marsh habitats (Townsville's Ross River is a classic!) although RRV is also in arid Australia and in Sydney. Outbreaks occur after rain which causes the mosquitoes to hatch. Native macropods (kangaroos) are the principal vertebrate hosts and human-mosquito-human transmission occurs.

#### **How does the disease affect humans?**

Incubation is 3 days to 3 weeks, women are affected more than men and subclinical infection is common. The typical picture of RRV is high temperatures, arthritis and rash. The arthritis is dramatic and can resemble gout – the joints of the limbs most common – wrists, ankles and hands. Back pain and fatigue are common. The fevers settle in a few days but the rash and joint pains often persist for days or weeks and fatigue can persist long after other symptoms resolve. Although RRV has had a reputation for causing symptoms for more than one year, recent studies show this is not the case and most people are free of symptoms after a maximum of 3 – 6 months.

#### **How is RRV treated?**

No antiviral treatment is available. Treatment involves paracetamol, fluids and rest. Fatigue and ongoing muscle pains and mood problems occur in about 10 per cent of people but no RRV death has been recorded. Blood tests confirm the virus illness.

#### **How do I avoid RRV?**

- Avoid mozzie bites –
- Use DEET repellent, mozzie coils and cover up in the evening.
- Don't go camping in endemic areas – (increases the risk 8x)

### **16.21.3 Other viruses and bugs**

Barmah Forest Virus is a similar disease to RRV but less severe – precautions are the same. Many diseases are mosquito-borne particularly in the tropics and if you don't get bitten by mozzies you don't get these illnesses.

Also - Malaria does not exist in Australia – but take great care if you travel in tropical countries and get up to date, accurate information about this widespread killer before you go. Do not be complacent about malaria.

Queensland tick typhus can occur anywhere along the Queensland and northern New South Wales coast with about 50 cases per year. It is caused by a bug which is half way between a

virus and bacteria called Rickettsia. It is transmitted to humans through ticks, fleas, lice and possibly leaches. Symptoms arise 3 to 20 days after infection and include high fevers, cough, rash and often a hard lump where the person was bitten. Treatment is often delayed as diagnosis is not easy especially without a high degree of suspicion. Treatment is fast and effective however using doxycycline. The person with typhus symptoms will usually need to be in hospital.

## 16.22 Allergies and anaphylaxis

Allergies to dust, pollens, cats and all sorts of food are extremely common and usually relatively mild.

We live with them, put up with them, and occasionally take antihistamines, other drugs, puffers, cream, desensitizers or potions to help with the symptoms. These allergies will not kill us but can make us miserable sometimes. Our reaction to airborne allergens can be mild and it gives us hay fever, runny nose, itchy eyes. Food allergies can cause mild abdominal upset, or moderately severe and annoying symptoms including skin rashes, vomiting, diarrhoea, headaches etc.

- Some people suffer from moderate or severe allergies causing tingling of the mouth, hives, welts, swelling of face and lips, abdominal pain and vomiting.

Most people take antihistamines or oral steroids for moderate to severe allergic reactions.

- **Anaphylaxis is an allergic reaction in its most serious and dangerous form with rapid onset and may cause death.**

Milk, eggs, peanuts, tree nuts, sesame, fish, crustaceans and soy are the most common food triggers, which cause 90% of allergic reactions, however, any food can trigger anaphylaxis. It is important to understand that even trace amounts of food can cause a life-threatening reaction.

Bee, wasp and jumper ant stings are the most common causes of anaphylaxis to insect stings. Some people have an anaphylactic allergic reaction to certain medications.

⇒ **Signs and symptoms of anaphylaxis – breathing difficulty and collapse.**

The signs and symptoms of anaphylaxis may occur almost immediately after exposure or within the first 20 minutes after exposure. Rapid onset and development of potentially life threatening symptoms are characteristic markers of anaphylaxis. Allergic symptoms may initially appear mild or moderate but can progress to true anaphylaxis rapidly. The most dangerous allergic reactions involve the respiratory system (breathing) and/or cardiovascular system (heart and blood pressure).

Severe allergic reaction which is anaphylaxis causes:

- Difficulty and/or noisy breathing
- Swelling of the tongue
- Swelling or tightness in the throat
- Difficulty talking or hoarse voice
- Wheeze or persistent cough

- Loss of consciousness and/or collapse
- Pale and floppy (young children)

**Treatment - do not delay, give adrenalin:**

As this is a critical illness treatment must not be delayed. Intramuscular adrenaline must be given. Adults should have 0.3-0.5mg IMI in the anterolateral thigh. Repeat at 5 to 15 minute intervals if symptoms recur. Epipens are available for adults in a dosage of 0.3mg or for kids as 0.15mg.

Antihistamines may relieve the itch but do nothing for airway obstruction.

Asthma puffers and steroids are unlikely to help in acute anaphylaxis.

⇒ **You need to avoid this situation - prevention**

Either do not allow anyone with a history of true anaphylaxis on your boat or make sure they carry their own Epipen and have a buddy who can use it. If their allergy is to food, tell them to bring their own food as you cannot guarantee there is not a trace of prawn juice in your saucepans nor a trace of peanuts in the bowls – for example. If their allergy is to bee stings, beware. In reality, if you think you might carry an Epipen you will discover that they are very expensive and you will sensibly need two. The alternative is cheap being adrenalin in an ampoule but drawing up tiny doses of adrenalin on a rocky boat and injecting a crew member is not for the inexperienced.

## 17 Managing injuries

Injury (or trauma) can be physical or psychological, the result of contact with the unexpected and undesirable!

The following topics can help you understand and manage injuries.

- 1) Prevention, prevention, prevention
- 2) Injury triage – could it be serious?
- 3) Injury- bony injuries
- 4) Injury- soft tissue injuries
- 5) Bites, stings and fish poisoning

### 17.1 Prevention of injuries

Prevention of events likely to result in injury is usually the best approach. A cruising yacht is a minefield of potential sources of injury but equally these can be identified and in most cases the risk reduced or eliminated.

- Don't use your bare fingers for anything
- Tidy up all ropes, close hatches, secure boom.! And be safety conscious.
- Go aloft on 2 ropes always

Prevention is mostly common sense and learned over the years and for example:

- Anchor – wear gloves when handling the anchor and chain. Have a general rule that you don't physically touch the anchor or chain – this can be arranged, with simple windlass

arrangements. If the chain jams, don't attempt to free it with your bare hands. Anchors and chain are a common source of finger damage and loss.

- Furlers – don't let your fingers or any part of you touch the furler when it is in use.
- Halyards and sheets – keep your hands away from the load side of the winch. Prevent over-rides and if you get an over-ride, free it with some other mechanical device or load sharer than your fingers. Practice the knot to unload a sheet under tension. Avoid flogging sheets ready to take out your eye. Put turns around winches and use other friction devices to control sheets and lines – not your hands.
- Winches – don't let anyone unfamiliar with YOUR winches near. Beware of the mindless power of electric winches.
- Don't put your hands or fingers on or over any edge – eg gunwales, topsides, rails, dinghy edges etc
- Don't fend off docks or other boats. Your leg is a poor fender for your 12 tonne yacht.
- Beware the BOOM. More deaths and brain injury have occurred from the boom than any other solid yacht equipment. Never forget the topping lift, fit a spring-loaded vang, use preventers and/or a boom brake, avoid uncontrolled or unplanned gybes.
- Don't stand on sails, ropes or power cords lying on the deck.
- Don't leave hatches open – close them as soon as you have used them.
- Stand clear when the crew (not the skipper) is working aloft in the bosun's chair. The skipper is best used operating the winch and the safety line. (Yes – the SAFETY LINE.)

Your boat will be unique in the traps awaiting you and your crew – try and identify them. It is worth strolling around the deck of your boat assessing possible sources of injury and planning how to PREVENT injury.

## 17.2 Injury triage – could it be serious?

Things that suggest more serious injury which require urgent attention are:

Nature of the injury

- High impact incidents will probably cause serious injury. Assume the logical worst, not the blind optimistic best. Head, abdomen and chest injuries can be subtle.

Signs / symptoms of serious injury

- Severe pain that does not subside
- Immediate and marked swelling
- Deformity of the affected part
- Broken or bleeding skin over tender deformed bone
- Loss of function not just due to pain
- Limb a strange dusky blue colour below injury
- Strong abdominal pain
- Altered consciousness
- Eye injury

## 17.3 Bony injuries

Fracture is the correct word for any broken bone (crack, greenstick or displaced).

All suspected fractures (except maybe toes) need medical assessment. At times serious complications can arise if the fracture is neglected and most fractures and dislocations benefit from X-ray and if necessary a re-alignment.

After trauma there may often be other damage done to the muscles and ligaments as well as bones which also may require special medical assessment. Some obviously need surgical intervention such as a fractured hip, pelvis, elbow and often a wrist. Even minor fractures and dislocations – fingers, hands and toes – will require skilled assessment and management.

Any patient who has had significant trauma with possible bone fracture may have other injuries – head and neck injuries, chest injuries and abdominal injury or serious bleeding. The patient needs to have life-threatening and serious injuries assessed and managed according to your First Aid training and triage.

Initial response – follow your First Aid training. Use DRABC – then stop any bleeding before dealing with broken bones. To assess bones firstly just look at the injury and compare one side to the other. This is most useful. If there is severe pain and tenderness, reluctance to move the limb, deformity of the limb and marked swelling you may think it is obvious that a fracture is present. At other times a fracture is less obvious. You can rarely be certain without an X-ray. So, if in doubt, treat as fracture.

**Compound and complicated bony injuries** – If the skin around the fracture is broken you have a more serious situation and the fracture is called a “compound” fracture which runs the risk of infection. This is serious. Also blood vessel and nerve damage can sometimes complicate the situation and occur due to the malalignment of the bones. Check for pulses below the site of injury. Be skilled enough to find these pulses. Loss of pulses or pallor of the limb below the injury indicates blood vessel damage. Check for any muscle weakness or sensory loss below the site of injury. Any abnormality may indicate nerve damage.

So if there is a compound fracture, a loss of function not just due to pain or the limb is a strange dusky blue colour below injury, the situation is serious. Call for help and proceed to port asap.

## 17.4 Bony injuries treatment

### Immobilise uncomplicated injuries.

The general rule of fracture immobilisation is ‘splint it where it lies’ don’t try and straighten or rotate or realign any body parts. Splinting, casting, buddy taping and slings are the best choices. Ideally, immobilise the injured bone from the joint above to the one below it. Immobilisation protects the injured part and helps reduce pain. Remember immobilising the limb is temporary until the injury has been assessed by medical personnel and X-rayed. Various types of splints are available to cruisers including fibreglass, aluminium, inflatable etc.

- Complicated or compound fractures will need to be dressed before immobilisation and access to wounds must be considered when splinting. You must contact shore based medical advice as antibiotics are nearly always required if the skin is broken near a fracture. These are always serious.

If you cannot make contact within an hour and the person has a complicated or compound fracture when the skin surface at or near the fracture is damaged, even if only superficially, then you should commence antibiotics to prevent bone infection – osteomyelitis, a serious complication from bacterial contamination of bone. Give the patient oral Keflex AND Dicloxacillin from your First Aid Kit. More potent antibiotics will be given when the patient reaches medical help.

### *Pain Management*

Bone pain is severe. Following immobilisation, give the patient the strongest painkillers in your Kit. Tramal or Panadeine Forte for example can be given regularly. Lie the patient down in a safe place, keep them warm and give them warm fluids.

### *Communicate*

Make the appropriate radio communications, determine the nearest acute medical help and head for the nearest port with these facilities. Keep those around you informed of the patient's condition, your whereabouts and your intentions.

### *Record everything*

Make a note of the time and circumstances of the injury, and write down the times and details of their progress, medications. Checking them at least half hourly and write down they look and how they are feeling. eg

5.05 pm – fall onto outstretched hand, arm painful and swollen. Nerve and blood vessels appear intact.

5.30pm – arm splinted

5.45pm – Panadeine Forte 2 tabs given with 100ml water

6.15 pm – 250ml water given. Pain improving. Moved to bunk.

## **17.5 Soft tissue injuries**

This term refers to injuries to muscles, ligaments and tendons:

It excludes fractures, significant haemorrhage or bleeding and acute spinal cord injury which we discuss later.

Common soft tissue injuries are –

- Sprains – when ligaments are overstretched or torn
- Strains – when muscle or tendon is overstretched and partially torn
- Rupture – when complete tear of muscle or tendon occurs
- Deep bruising or haematoma which is the collection of blood in a muscle.

There are grades of soft tissue injuries from minor to major. Minor injuries require simple 'RICE' – management – Rest, Ice, Compression and Elevation.

Major soft tissue injuries often require repair and therefore immediate completion of the passage and transfer of the patient to an emergency department.

## **17.6 Soft tissue injuries treatment**

Aims –

- Reduce local tissue temperature
- Manage pain

- Minimise inflammation and swelling
- Protect the tissue from further injury
- Encourage collagen fibre growth and realignment
- Rest 3 days or until pain is minimal
  - Aids healing and avoids further injury
- Ice, 20mins on and 10mins off
  - Frozen peas, cold gel packs or anything cold can be used. Benefits are pain and swelling reduction, reduced inflammation
- Compression 3 days
  - Reduces swelling, helps stop further bleeding. Beware puffing up below. Use crepe bandage, mild compression bandages, adhesive or non-adhesive strapping, elastic tubular support or inflatable splints. Check compression regularly to ensure it is not too tight and replace the compression each 24 hours, repeating for 3 days at least.
- Elevation
  - Gravity helps reduce swelling. Also helps 'incarcerating' the patient so he/she doesn't try and 'help out' and further injure themselves.
- Protection
  - Immobilise the injury to reduce pain and help healing of the soft tissue – splinting, casts, taping and bandaging are all useful.
- Pain relief
  - Anti-inflammatories (Nurofen for example) are helpful in pain relief but questionable in their use in speeding recovery.

## 17.7 Head injuries

Head injuries are not uncommon aboard yachts. The brain is a soft and delicate organ. A hard blow to the head can injure the brain or spinal cord even when there are no visible signs of trauma to the scalp or face. That's why all head injuries are serious.

There are various types of head injury:

- Fractured skull
- Fractured face, nose, cheek, jaw, eye socket
- Brain injuries
  - Mild concussion
  - Serious brain damage
- Each with or without skin lacerations (open or closed)

Head injury whilst sailing is most likely to be from a blow coming at worst from a high speed heavy boom and at least from a fall causing a bumped head. The soft, jelly-like brain is protected by the skull. The brain doesn't fill the skull entirely – it floats in a clear liquid called cerebrospinal fluid. This fluid acts as a shock absorber, but its protective value is limited.

Brain is damaged by the bleeding inside the head swelling and squashing the brain.

The kinetic energy of a small knock to the head or face can be absorbed by the cerebrospinal fluid, but a hard impact can smash the brain against the inside of the skull. This can bruise the brain or tear blood vessels. If blood and fluid start to escape, the swelling has nowhere to go and is contained within the skull and therefore the pressure builds. Raised intracranial pressure can cause permanent damage by literally crushing the brain.

Symptoms include altered consciousness – this may fluctuate with time. The level of consciousness may change by improving for a while and deteriorating again later. The level of consciousness is determined by the patient's responsiveness. AVPU – Are they Awake, responding only to Verbal command or, Pain, or are they Unconscious:

- Vision changes – the person may complain of double or blurred vision and the pupils of the eyes may be dilated (enlarged) to different sizes in a person with a serious head injury.
- Nausea and vomiting – these are common side effects of serious head injury.
- Skull deformities – compressions or deformities are signs of fractures.
- Clear fluid from the ears or nose – a skull fracture, especially a fracture to the base of the skull, can allow cerebrospinal fluid to leak from the ears or nose.
- Black eyes and bruised skin behind the ears – this indicates that the force of the blow was sufficient to rupture blood vessels – (Battle's Sign)
- Head and face skin bleeds profusely and is not a sign of brain damage. Give speedy first aid with pressure dressings.

Remember that bleeding is not a reliable indicator of the seriousness of the head injury. Scalp and face lacerations bleed profusely even when they are shallow. Avoid disturbing blood clots forming in the hair to examine the wound.

## 17.8 Head injuries treatment

- General first aid - DRABC then posture the patient.
- **Unconscious patient**
- **Conscious patient after bad injury**
- **Conscious patient after minor blow**
  - **Beware concussion**

General First Aid measures apply - Airway and circulation management takes priority over other treatment.

⇒ **Any significant head injury will need helicopter retrieval.**

If **unconscious**, ensure airway and circulation are satisfactory. The person should not be moved unless they are in immediate danger – however if they are on deck and likely to be swept overboard or rolled unnecessarily, give serious consideration to moving them into the cockpit. Unnecessary movement may cause greater complications to the head injury itself, the spine or other associated injuries. The patient needs to be protected from further injury. Regularly check their airway and circulation and apply the principles of first aid -

If the person's breathing becomes impaired due to a problem with their airway, you may need

to very carefully tilt their head back (and support it with cushions or pillows) and pull their jaw forward. The aim is to avoid further damage to the brain and spinal cord.

If the injured person is conscious, encourage them to minimise any movement, tell them to lie still and avoid movement of their head or neck. Control any significant blood loss from any head wounds with direct pressure and a dressing.

Reassure the person and try to keep them calm.

Assess the patient initially every 15 minutes using AVPU and when stable, every 30 mins. Document your observations. You may use the the Glasgow Coma Scale found in the attachments.

Be alert for any danger signs over the next one or two days – for example -

- a) fluctuating level of consciousness – ensure the patient can be roused when they are asleep
- b) persistent vomiting
- c) loss of coordination
- d) persisting or worsening headaches, despite analgesia

If any of the above occur treat the matter as URGENT and seek help on the radio/mobile immediately.

## 17.9 Concussion

Concussion is a mild traumatic brain injury that follows trauma to the head. It is a diagnosis made when it is certain a more serious head injury has not occurred.

Symptoms of concussion can persist for up to three weeks.

## 17.10 Neck and other spinal injuries

Causes - Most injuries that involve the neck or cervical spine are the result of a violent collision that compresses the cervical spine against the shoulders eg diving into a pool or high speed whiplash

Other spinal injuries occur in high speed accidents, diving decompression injuries and when the spine is already weakened.

10% unconscious people have a neck injury.

Older people are more susceptible but it would still be extremely rare on a boat

Could there be neck or spinal injury?

Yes – if there is head compression or whiplash or other intense head or body injury.

Yes – if they cannot move limbs, are numb to touch or unconscious.

Treatment

First aid – DRABC

Neck brace, back brace

Call for help and rush to port

Signs and symptoms of spinal injuries could include:

The body is lying in an awkward, unnatural position.

Their skin is clammy and cool.

If conscious, they may report unusual tingling sensations in their limbs or an absence of any sensation including pain.

They can't move their limbs.

Ensure the airway is clear, breathing is unobstructed and circulation is adequate.

Keep the person's head in line with their neck. Avoid twisting their head or allowing their head to roll to the side. With great care, immobilise the head and neck - roll a towel or similar soft item and place it around their neck to keep their head straight. Don't try to move them unless absolutely necessary. This may be necessary if they are in danger on deck.

If the injury is lower in the spine attempt to immobilise the entire trunk.

Communicate with your emergency sources and explain in detail the type of injury.

## 17.11 Marine envenomation, spikes and ciguatera

### 17.11.1 Marine envenomation and spikes – symptoms and treatment

Critter	Frequency	Identity	Effect	Treatment	Deaths*
<b>Stingers</b>					
Bluebottle	Common	Blue sac and tentacles up to 1m	Burning pain	Wash off Cold/ice pack	
Man-o-War	Warm oceans	BIG sac and tentacles up to 30m	Burning, severe pain, vomiting	Wash off Cold/ice pack	3 in USA
<b>Jelly fish</b>					
Blubber	Common	Mushroom with short fronds	Minor pain	Wash off Cold/ice pack	
Box Jellyfish	Like shallow tropical coastal waters. Not uncommon	4 cornered bell (box) up to 30cm. 15 tentacles up to 3m	Severe pain loss of consciousness and death	000, DRABC Lots of vinegar, cold pack, immobilisation Severe - need antivenom.	70 deaths
Irukandji	Tropical, Barrier Reef. Usually 200 stings pa plus some epidemics	"Invisible" small box 2.5cm, tentacle up to 60cm	Initial minor sting, 30 mins later severe pain and prostrate	000, DRABC Lots of vinegar, hospital	Rare
<b>Puncture +/- venom wounds</b>					
Coneshell	Common on reefs	Pretty shell - envenomates	Nerve toxin, stops life	000, DRABC Pressure immobilisation	
Stonefish	Tropical fish	Ugly brown	Intense pain,	000, DRABC	

Critter	Frequency	Identity	Effect	Treatment	Deaths*
		spine envenomates	can cause paralysis if big dose	Hot water to reduce pain antivenom	
Stingray	Common	Obvious	It is the barb which cuts you badly	Hot water, cleanse, antibiotics	2 from heart puncture
Sea urchin	Common	Urchin has spines which break off	Pain from spines	Hot water, see doctor may need surgical removal and tetanus	
Blue-ringed Octopus	Widespread	Rock coloured! Up to 15cm	Sting slight but, with nerve toxin, you can't breathe in minutes	000 DRABC CPR might save a life immobilise	Some
Sea snake			Venomous	000, DRABC hospital	

\* Not official stats ... use only as a rough guide

### 17.11.2 Bluebottle and Man-o-War stings

These are the commonest cause of marine stings in Australia.

Bluebottle or Portuguese Man O' War or *Physalia* is actually a large colony of organisms supported by the gas-filled bubble which drifts on currents and winds and is often found in large rafts of thousands of bluebottles.

Sting is immediate and severe but fades over an hour. The sting trail is red, beaded and very itchy and sore.

Remove the tentacles. Pick them off with your fingertips or rinse off with seawater. Wash your



hands after so as not to sting more sensitive areas – eyes etc

Apply ice or cold packs, in a plastic bag, for 5-15 mins until the area is numb, then remove ice. Re-apply as necessary.

No other treatment works and should not be used.

An anti-inflammatory cream could be applied if irritation persists.

Treatment with vinegar is not recommended at present.

### 17.11.3 Jellyfish

There may be many jelly fish which simply cause skin pain and sometimes nausea and headaches. Remove the tentacles. Pick them off with your fingertips or rinse off with seawater. Wash your hands after so as not to sting more sensitive areas. Apply ice or cold packs, in a plastic bag, for 5-15 mins until the area is numb, then remove ice. Re-apply as necessary

### 17.11.4 Box Jellyfish Sting – *Chironex fleckeri*.

The Sea Wasp or Box Jellyfish (which is neither a flying insect nor a fish!) is a very simple animal but is the most venomous marine creature on the planet.

It has killed 70 Australians since 1880. Chironex is found in the tropics worldwide and on Australia's northern coastal waters as far south as Cape Byron and Ningaloo Reef in the west. In the NT, fatal stings have occurred every month of the year except August. Most stings are in shallow water along the coast, near estuaries where they breed, in calm weather and light wind.

When the tentacle contacts its prey, the nematocyst springs open and turns inside out, injecting toxin through the shaft into the prey. When the chironex are young and feeding only on prawns, the venom toxic to vertebrates is present only in 5% of the nematocysts. When the diet switches to fish, this increases dramatically.

Chironex develop in creeks and estuaries in winter and morph into medusae in Spring and migrate down the rivers as they become adult. Thus stings are more frequent on the coast in the wet season when the chironex is flushed downstream. Attacks are rare offshore.

Humans generally blunder into the near invisible jellyfish. Most stings are on the legs and lower body. Pain is instant and severe. The venom is toxic to nerves and the heart. The venom also destroys the skin involved. Victims are immediately distraught with pain and anxiety and can stop breathing very soon after the sting.

Management of Box Jellyfish Sting:

- Remove the visible remaining tentacles, not with your fingers.
- Inactivate the nematocyst with vinegar (acetic acid). Flood the affected area with vinegar for 30 seconds. This prevents any further nematocyst discharge. The longer the tentacles are left active, the worse the sting and more serious the outcome – death becomes more likely.
- First aid. Maintain the airway and breathing. If the patient becomes unconscious and pulseless, start CPR.



- Maintain airway and CPR indefinitely as when the neuro and cardiotoxin wears off you will have saved their life.
- Apply pressure/immobilising bandages - Broad bandaging of the affected limb from distal to proximal – from toes or fingers up. Similar to bandaging for snakebite - to prevent the toxin being carried towards the heart by the lymphatic system.

#### 17.11.5 Irukandji Syndrome

Irukandji Syndrome was originally thought to be the sting of one Box Jellyfish but now it is known to be a syndrome or collection of symptoms caused by the sting of a number Box Jellyfish species, predominantly *Carukia barnesi* named after Dr Jack Barnes who established the link between this jellyfish and the syndrome.

Similar to Chironex these very small and virtually invisible box shaped jellyfish are in Australia's northern waters mainly during the wet, but occurs all year round generally north of the Tropic of Capricorn but occurring south to Moreton Bay. Unlike Chironex, *Carukia* also occurs off the coast – in 2002 two people killed by Irukandji, one in the Whitsundays and another on a reef off Port Douglas were swimming well away from the coast.

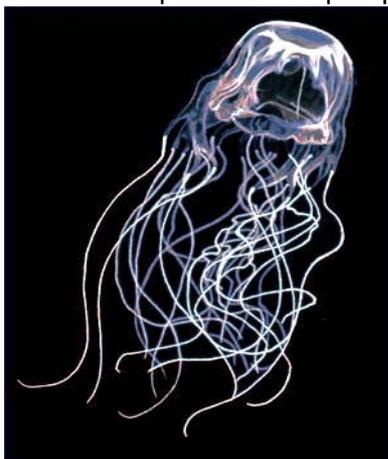
Stings are very variable – in 2001/2002 160 people were stung by mid-Feb (100 in Cairns, 15 in Townsville, 20 in the Whitsundays and 12 in Great Keppel.

The initial sting is usually not very painful. Some 30 minutes after the sting the set of symptoms starts –

- Severe lower back pain
- Muscle cramps
- Vomiting
- Restlessness and anxiety

Less commonly hypertension, toxic heart failure and pulmonary oedema can develop. These can be fatal and supportive airway and circulatory support are vital.

Ice and cold packs are helpful plus analgesics.



### 17.11.6 Injuries from, stonefish, coneshells, lionfish, stingrays and sea urchins.

Stonefish injuries can be very severe and even fatal as the spine which penetrates the skin contains a highly poisonous toxin. The severity of symptoms will depend on the dose of the poison. They are the most venomous fish on earth. Coneshells also inject a poisonous toxin which can paralyse and cause death. Lion fish are also venomous.

For these injuries, call for urgent help on VHF 16, or 000 on mobile, act with DRABC, use heat to reduce pain at site by increasing blood flow and dispersing the venom and get to hospital asap.

Management of the other non poisonous penetrating wounds involves removal of any remaining spines or spikes, placing the area in HOT water which provides good pain relief and cleaning the wound with sterile saline. Antibiotics are usually required as these wounds are prone to infection and often the infection requires intravenous antibiotics in hospital. The spines of sea urchins may need to be surgically removed. Tetanus injection is also often given.



### 17.11.7 Blue Ringed Octopus

This palm-sized octopus is common along the length of Australia's coast in shallow rock pools. The blue rings become vivid when the octopus is disturbed and the bite is often fatal.

The octopus has a powerful neurotoxin which causes paralysis within 15 minutes. There is no anti-venom and the treatment is airway and circulatory support. This often requires artificial ventilation for up to 36 hours. Often the patient has motor paralysis including respiratory paralysis, while remaining sensorily intact.



So call 000, apply DRABC and if possible the wound and limb should have compression/immobilisation bandaging similar to snakebite to minimise venom spread.

Communicate with your emergency contacts and be clear that the patient will require urgent helicopter retrieval. Several deaths have occurred solely due to the patient not being given ventilator assistance as First Aid.

#### **17.11.8 Precautions for Prevention of Marine Envenomation and Spikes**

Wear protective clothing – Wear thick protective footwear when walking in the shallows, watching where you walk, not picking up shells and knowing what coneshells look like.

Wear shoes when swimming to protect against stonefish, conefish and sea urchins. Stingray injury is not uncommon walking in sandy or muddy shallows and after standing on the stingray, the tail curls up and penetrates the lower leg. Wear long pants to protect against the barb of the stingray

Wear stinger suits to protect against Chironex (Box Jellyfish) and Irukandji stings.

Stinger resistant nets on some beaches protect against the potentially fatal Box Jellyfish.

Enter the water slowly and carefully. Don't stir up the jellyfish tentacles or disturb the stingray and look where you are treading.

Swim on patrolled beaches as the lifesavers close beaches with stingers and can save your life if trouble occurs.

Never swim in a closed beach with a red flag.

#### **17.11.9 Ciguatera Poisoning**

Ciguatera poisoning is a syndrome of symptoms affecting the gut, cardiac and neurological systems as a result of eating fish containing ciguatoxins. It can be fatal and results from eating warm water marine fish in Qld and NT.

50,000 cases occur annually worldwide!

Symptoms include:

- Digestive system – Severe nausea, vomiting, diarrhoea and cramps
- Cardiovascular – Slow, erratic pulse and low BP
- Neurological – Headache, itching, temperature reversal, joint and muscle pain, convulsions, sweating numbness and tingling. Some of these neurological symptoms may last months or years.

The severity of the symptoms is dose-related and although causing death in only 1% in Australia, in 1999 100 people died in Madagascar from a shark-eating party.

**Early treatment gives a better result – as soon as symptoms are recognised, medical treatment is sought. Most effective treatment is intravenous mannitol which effectively flushes the toxin from the body's tissues. If the symptoms are severe or progressive, helicopter retrieval from the yacht will be necessary.**

Critter	Frequency	Identity	Effect	Treatment	Deaths
Ciguatera poisoning	Common 50,000 cases pa globally!!	Cannot be detected, ask locals, avoid certain fish	Intense diarrhoea and prostrate	000, DRABC, hospital and a drip	no recent deaths in Australia

A tiny dinoflagellate produces the toxin precursor gambier-toxin which is then eaten by small herbivorous fish which are convert the precursor to ciguatoxins which build up in the food chain to the ultimate consumer – humans.

The larger the fish, the higher the level of ciguatoxin.

300 species probably are susceptible to ciguatoxin accumulation. Ciguatera is lethal to freshwater fish and excessive concentrations will eventually kill the fish.

Fish species implicated – a small list:

- Red Bass (Mangrove Jack)
- Chinaman fish
- Coral Trout
- Groper
- Queenfish
- Spanish mackerel
- Red emperor
- Sweetlip
- Trevally

Moray eel contains the highest concentration of ciguatera and the liver and roe of affected fish have a higher concentration - 50x muscle concentration.

### **Prevention**

- Avoid eating fish caught near known ciguatera locations – these are well mapped in Q and NT and known by locals
- Eat only small portions (50-100g) of fish from an unknown location
- Eat fish smaller (2kg) rather than larger and pelagic species
- Avoid the liver, roe, head and viscera of any tropical marine fish
- Avoid fish harvested from the windward side of an oceanic island
- Avoid eating moray eel.
- Avoid excessively large carnivorous fish
- If still in doubt, stick to safe fish like mullet, whiting, bream and flathead.

## 18 Drugs and medical supplies to have on board

Drugs to have on board

- a) Analgesics for pain relief
- b) Antibiotics
- c) Other

To manage your stock and use the drugs correctly you should understand a little of the way the drugs work, what precautions you should take, which drugs to buy, what information to write on each packet and how this list relates to the Green Book.

### 18.1 Analgesics for pain management

Analgesics for common oral use come from three different families of drugs.

- 1) Anti-inflammatory agents such as aspirin, nurofen, voltaren
- 2) Paracetamol family such as panadol
- 3) Narcotic family including codeine, morphine, pethidine, oxycodone and tramadol...  
prescription only

And, some drugs are a mixture of active ingredients from more than one family eg panadeine forte. So, be careful not to overdose on any one family. This is a real risk with fancy cough and cold medicines.

Paracetamol and anti-inflammatories and narcotic analgesics can be taken together and the side effects are not cumulative but pain relief is additive.

Drug allergies to morphine and pethidine may also cross over to codeine and oxycodone. However true allergies to these are pretty rare. Most "allergies" are sensitivities as this class of drug can cause severe nausea, even vomiting and often fainting and disorientation which is not an allergy but just a sensitivity.

To be active, codeine must be converted into "natural" morphine. About 5-10% of Caucasian cannot metabolise codeine into morphine and will find codeine ineffective.

When you shop for analgesics over the counter, there are now so many options. Carefully read the contents to avoid overdosing on a little ingredient you didn't notice was in the medication. It may be easier to only buy tablets with a single ingredient. Avoid analgesics with caffeine in them.

Other drugs are used for chronic pain relief such as antidepressant medicines which in low doses can be very effective. These are no use in the acute cruising setting.

### 18.2 Pain management (analgesics) guide

**Mild pain:** use paracetamol, aspirin, Nurofen, Panadeine and all OTCs (over the counter).

**Moderate and severe pain:** use Panadeine Forte # or equivalent

**Very severe pain:** use Tramadol #, oxycodone # tablets or suppositories.

Write on packets with dosage eg Panadeine Forte for severe pain, two tablets 3 to 6 hourly, max 8 in 24 hrs.

(# Requires doctor's prescription).

Green book says that you need, 40 paracetamol tablets, 40 panadeine tablets and 20 panadeine forte tablets for a Long Offshore cruise.

We say, add Nurofen (or equivalent) and maybe, but not essential, add Tramadol or oxycodone tablets or suppositories

### 18.3 Antibiotic summary

	Augmentn / Amoxil	Doxy-cycline	Keflex	Rulide	Triprim	Dicloxacin
Ears, sinuses and throat	✓✓✓	✓✓	✓✓✓	✓✓✓	✓	
Chest	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓	
Mild skin infection	✓✓		✓✓	✓✓		✓✓✓
Serious skin cut from sea	✓		✓	✓		✓✓✓
Abdominal pain, gall bladder etc	✓✓✓	✓✓				
Urinary pain, cystitis	✓✓✓	✓✓✓	✓	✓✓	✓✓✓	

#### 18.3.1 Background

There are actually too many choices for oral antibiotics, and you only want to take 2 to 4 different types which can cover most infections. Use the table above as a guide and build on your own experience. Then discuss your options with your GP who will be writing the prescriptions for you. Make sure before you leave that you know exactly which antibiotics you have, what their use is and how to use them. No particular antibiotics are recommended for category "L" in the "Green Book" which is helpful. This means we are free to recommend our own preferences. The new version of the "Blue Book" for yacht racing says category 2 (Pittwater to Coffs) races require Keflex, Vibramycin and Augmentin which are good options for most boats.

Drug allergies. Penicillin allergies are said to be fairly common (10%) but anaphylaxis occurs only in 0.01% of people. If in doubt administer another class of drug (eg Vibramycin, Rulide, Keflex or Trimethoprim). Feeling nauseous however is not usually an allergy. At worst it is a "sensitivity" or a local irritation of the stomach or intestines. Remember that Augmentin

(similar to Amoxil) is a penicillin as is Dicloxacillin. If you take them with you, write boldly that on the packet just in case someone is allergic to penicillin.

Most antibiotics can cause diarrhoea and vaginal thrush. Women are advised to have antifungal pessaries handy if taking antibiotics.

Antibiotic eye drops are handy. Chloromycetin eye drops need to be refrigerated but not the ointment. The ointment is very handy for nighttime. Ocuflax is a powerful broad spectrum eye drop which does not need refrigeration. You may also want to carry something for otitis externa (swimmers ear) which is usually mild but occasionally very painful. We recommend Ciproxin HC ear drops as safe and effective although severe infections will need additional medical care.

Other antimicrobials include many antifungals. We suggest you consider whether you might need antifungals with or without mild cortisones for tinea, thrush, groin rash, sweat rash, tinea versicolor etc. These agents do not require prescriptions (at least in NSW).

### 18.3.2 In summary

With your GP choose one or two broad spectrum ones and take two courses of each. This will be more than enough for most emergencies. Broad spectrum antibiotics are effective against most infections and include Amoxil, Augmentin, Doxycycline.

- Add a Rulide or Keflex if you want, especially if one of your crew is known to be allergic to penicillin then perhaps take three different ones.
- If you get recurrent infections of any sort, you might take two courses of your favourite (eg Triprim for cystitis)

***Dicloxacillin – we highly recommended you take a course of this with you for any skin cut from the ocean. This is not a broad spectrum antibiotic but targets the more determined and nasty marine bugs that infect skin, muscle and joints.***

Antibiotic eye drops - chloromycetin drops are required in the Green Book but must be refrigerated. The chloromycetin eye ointment need not nor Ocuflax drops which are a more practical alternative to chloromycetin eye drops.

Antibiotic ear drops – Ciproxin HC

Antifungals - these are OTCs for treating athlete's foot, tinea, thrush, groin rashes, tinea versicolor.

Precautions – be aware of allergies however they are rarely life threatening. Finish the course and have follow up.

Green book does not require any oral antibiotics but Blue racing book requires, Augmentin, Vibramycin and Keflex.

Write on packets – use the table above to write the likely uses on the boxes of antibiotics you obtain. For penicillin based antibiotics mark them clearly as “type of penicillin” eg on Augmentin, Amoxil, Diclox

For eye drops and ear drops make sure dose is typed on them or add it yourself.

## 18.4 Drug guidelines based on the green book – the rest

For a Long Offshore cruise, the Green book also requires

- 1) Soluble aspirin and nitrolingual spray # (cardiac emergencies)
- 2) Immodium or Lomotil
- 3) Gastrolyte
- 4) Sea sickness medication (?)

We recommend you add

- 1) Ventolin puffer maybe with a spacer for asthma
- 2) Prednisone 25mg # for allergies. Prednisone (a steroid) is cheap and effective for all types of allergies and is often used by asthmatics and those with inflammatory bowel diseases for short term symptom relief. We are suggesting you carry 25mg tabs although 5mg ones are available.
- 3) Stemetil 25mg suppositories # for severe sea sickness.

## DRUG REFERENCE GUIDE

Drugs in soft shaded green boxes are required for long offshore passages (category "L") in the RPAYC "Green Book".

Drugs in grey shaded boxes are additional drugs recommended by the HCC Team. You should consider taking some (not all) of these , so see your GP for further advice.

<u>Drug Group</u>	<u>Generic Name</u>	<u>Brand Names</u>	<u>Usage</u>	<u>Dosage</u>	<u>Common Side Effects</u>	<u>Other Comments</u>
<b>Pain relief</b>	Paracetamol	Panadol 500mg Panamax 500mg	Mild pain Fever	1-2 tabs every 3 to 6 hrs. Max 8 tabs /24hrs		Overdose (15 tabs) may be fatal Reduces fever
	Ibuprofen	Nurofen 200mg	Mild Pain Fever "Arthritis"	1-2 tabs every 6 to 8 hrs. Max 8 tabs /24hrs	Indigestion	Reduces fever An "anti-inflammatory"
	Paracetamol 500mg + Codeine 8mg	Panadeine PanamaxCo Codalgin	Mild pain	1-2 tabs every 4 to 6 hrs. Max 8 tabs /24hrs		Probably no better than plain Paracetamol
	Codeine 30mg + Paracetamol 500mg	Panadeine Forte Codalgin Forte	Strong pain Dry cough	1-2 tabs every 3 to 6 hrs. Max 8 tabs /24hrs	Codeine causes drowsiness, constipation	2 tabs make most people useless on the job.
	Tramadol 50mg	Tramal	Strong pain	1-2 tabs every 4 to 6 hrs.	Heachache	
	Oxycodone	Endone 5mg tab Oxycontin 10mg tab Proladone suppository 30mg	V. severe pain	Tabs, 5 to 15 mg every 4 to 6 hrs.  1 suppository every 6 -8 hrs	Drowsiness	Suppository is absorbed more slowly and lasts longer.
<b>Cardiac Emerg ency</b>	Soluble aspirin	Disprin, Aspro Clear 300mg	Cardiac chest pain (angina)	1 tablet, once only at onset of pain		Aspirin works by slightly thinning the blood to reduce clots
	Gyceryl trinitrite	Nitrolingual Pumpspray 400mcg	Cardiac chest pain (angina)	1 spray under tongue at onset of pain. May repeat every 5 mins to max 3	Feeling flushed, headache, nausea and fainting	Pump must be primed Sit patient down to avoid fainting

<u>Drug Group</u>	<u>Generic Name</u>	<u>Brand Names</u>	<u>Usage</u>	<u>Dosage</u>	<u>Common Side Effects</u>	<u>Other Comments</u>
				doses		
<b>Eyes</b>	Saline wash		Foreign particles or liquids in eye	Rinse well, stop, rinse again.		Purchase a bottle with a nozzle for ease of irrigating eye
	Eye patches		Trauma to eye Not for conjunctivitis			Need micropore tape too. Never patch an eye which has pus.
	Chloro-mycetin eye drops	Chlorsig eye drops	Potential or infected eye	One drop, both eyes, two hourly initially then four hourly		Must be refrigerated Discard after one person's use. Must continue for 5 days
	Chloro-mycetin eye ointment	Chlorsig eye ointment	Potential or infected eye	One line inside the whole bottom lid 12hrly		No refrigeration required. Better than drops if eye is padded
	Ofloxacin	Ocuflox eye drops	Potential or infected eye	One drop, both eyes two hourly then 4 hourly		Broad spectrum, no fridge needed
<b>Antibiotics (see chart below)</b>	Cephalexin	Keflex 500mg Ibilix 500mg Ceflin 500mg	Chest, sinus, middle ear, throat, skin, cystitis	1 tab 3 times daily	Nausea, diarrhoea	Take with food. For staph and strep infections
	Amoxicillin plus Clavulanic Acid	Augmentin Duo Augmentin Duo Forte Clavulin Duo Forte	Chest, sinus, middle ear, throat, skin, cystitis, prostatitis	1 Duo Forte tab every 12 hours	Nausea, diarrhoea	This is a penicillin! Beware allergies Take with food Broad spectrum
	Doxycycline	Vibramycin 100mg Doryx 100mg	Chest, sinus, middle ear, throat, cystitis, prostate	2 tabs to start then 1 tab a day	Nausea, diarrhoea, photo-sensitive skin reaction	Photosensitive reaction may occur even if used previously. Take after food. Broad spectrum
	Trimethoprim	Tripriam 300mg	Cystitis, prostatitis	One tab daily		Take at bedtime to concentrate in bladder
	Dicloxacillin	Diclocil 500mg Dicloxig 500mg	Serious staph skin infections	One tab, four times a day on empty stomach	Nausea, diarrhoea,	Not broad spectrum but best for serious staph in skin.
<b>Diarrhoea</b>	Loperamide	Imodium 2mg	Diarrhoea	2 tabs, 3-4 times a day, max 8 /24hrs	Constipat'n	Keep up fluids
	<b>OR</b> Diphenoxylate/ Atropine	Lomotil	Diarrhoea	2 tabs, 3-4 times a day, max 8 /24hrs		Keep up fluids. Do not take with Kwells or Travacalm
<b>Dehydration</b>	Electrolytes and fluid	Gastrolyte	Vomiting / diarrhoea	1 sachet in 200mls water sipped		

<u>Drug Group</u>	<u>Generic Name</u>	<u>Brand Names</u>	<u>Usage</u>	<u>Dosage</u>	<u>Common Side Effects</u>	<u>Other Comments</u>
<b>Allergy</b>	Prednisone	Prednisone 25mg	Allergies	1 to 10 tabs depending, 2-3 times a day		Get medical advice to determine the dose.
	Adrenalin	EpiPen 0.3mg Adrenalin for injection 1:1,000 1 ml vials	Allergies, cardiac arrest			Only for expert use. See notes below
	Salbutamol	Ventolin	Asthma	2 puffs, may be 4 hrly or more frequently	Shaking hands and palpitations	Have a "spacer" if kids will be on board
<b>Sea sickness</b>	Dimen-hydrinate and hyoscine	Travacalm	Prevention and treatment	One tab 4 to 6 hrly		Top up doses with half a tablet every 2 -3 hrs to keep awake and well
	Prochlor-perazine	Stemetil 25mg suppository	Serious vomiting	One, then oral meds after 6hrs		Use if risk of dehydration

## 18.5 Medical Kit

Green Book Section 6 requires you to have the following

- 1) First Aid book
- 2) Drugs
- 3) Dressings (see below)
- 4) CPR mask
- 5) Splints
  - Aluminum, blow up, neck brace etc

Other items we recommend are - cold packs, hot packs, steristrips and lots more dressings.

### 18.5.1 Green Book Medical Kit Items

	O	L	S	C
<b>FOR WOUNDS AND LIMBS</b>				
Butterfly Steristrips (Strips of 5)	10	R		
Disposable Gloves	20	20	20	10
Crepe bandages 75mm x 1.5m	2	2	2	2
Crepe bandages 100mm x 1.5m	1	1		
Triangular bandage	1	1	1	
Band-aids	20	20	20	20
Adhesive tape 50mm x 2.5m (Leukoplast)	1	1	1	1
Roll cotton wool	1	1	1	1
Non adherent dressing (Unitulle)	10	10	5	
Antiseptic skin solution (Betadine) 15ml	1	1	1	1
Antiseptic swabs (Betadine)	8	8	8	
Medi-crème tube (with Xylocaine 2%)	1	1	1	
<b>FOR BURNS</b>				
Solugel wound dressing 100gm	1	1	1	1
<b>INSTRUMENTS</b>				
Scissors, stainless steel	1	1	1	1
Thermometer, clinical	1	1		
Forceps, splinter, stainless steel	1	1		
Safety pins, assorted sizes	10	10	10	10

## 19.0 Supplements

Health Questionnaire

Glasgow Coma Scale

- Helpful web site address
  - [www.stanthonysmedcenter.com](http://www.stanthonysmedcenter.com)
  - [www.mydr.com.au](http://www.mydr.com.au)
  - [www.familydoctor.org](http://www.familydoctor.org)
  - [www.healthInsite.com.au](http://www.healthInsite.com.au)

## 19.1 Health Questionnaire

Page 1 General non-confidential

Health Questionnaire		
Name:	Age:	Date of Birth:
Address:		
Phone number(s):		
<b>CONTACTS:</b> Name and phone numbers for <u>two</u> personal contacts in case of emergency 1) Next of kin:  2) Other family or friend:		
<b>CONTACTS:</b> Name and phone numbers for preferably <u>two</u> professional contacts in case of emergency such as GP and any significant specialist. 1) Doctor (GP):  2) Doctor / dentist / other health care provider:		
<b>DISCLOSURES:</b> Please disclose in this section, any matters which you want to share with the skipper and which you do not feel are strictly confidential although they will be treated as personal and private. We suggest you include drug allergies, food allergies, general health matters which you consider do not have to be confidential and which might have an impact on your voyage under certain circumstances. You could include disabilities, tendency to sea sickness and perhaps competency in First Aid. You may include medications here <u>as well as</u> on the page for Confidential Information.		

## Confidential Information

The sections below are for confidential information. You must choose carefully the people with whom you share this information. This is your responsibility. You may lodge this section with the skipper, the First Aider, your partner or just keep it to yourself. Whatever you decide to do with it, please make sure it is complete in case of emergency and the need to seek medical help. In such circumstances this page could be given to a doctor if you wish and medical care will be more effective if your full history is known. You may wish to get a health summary printout from your GP as well as, or instead of, completing this page.

Name: \_\_\_\_\_ Age: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

**CONTACTS:** Name and phone numbers for personal or professional contacts not listed on page 1 of the Health Questionnaire which you submitted to the skipper:

**MEDICAL HISTORY:** Current illness or past illnesses which could recur. Outline the condition, current medications, limitations and any information which might be relevant if you become ill with this or another condition.

**MEDICAL HISTORY:** Past illnesses which you consider unlikely to be a present issue.

**ALL OPERATIONS:** Include reason if not obvious and date.

**CURRENT MEDICATIONS:** Name of drug (preferably both trade name and generic) tablet size in mg, mcg or ml, number of tablets taken and when taken. Include non prescription items and medications taken occasionally.

Vaccinations current: Name and date given

Allergies to drugs and other things:

**CONSENT:** I agree to make this information available to medical practitioners if appropriate.  
Name and signature: \_\_\_\_\_

Date: \_\_\_\_\_

### 19.3 Glasgow coma scale

Eye opening	
Spontaneous	4
Response to verbal command	3
Response to pain	2
No eye opening	1

Best verbal response	
Oriented	5
Confused	4
Inappropriate words	3
Incomprehensible sounds	2
No verbal response	1

Best motor response	
Obeys commands	6
Localizing response to pain	5
Withdrawal response to pain	4
Flexion to pain	3
Extension to pain	2
No motor response	1

The GCS will also help you determine how severe the head injury is.

- GCS 13-15 is MILD head injury
- GCS 9-12 is MODERATE head injury
- GCS <8 is SEVERE head injury

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