

WORKING IN IRAQ - HEALTH & HYGIENE

BASIC SELF HEALTH

Climatic conditions, terrain, and a number of endemic diseases all make the hazards to health in hot climates greater than elsewhere.

In addition, the difficulties of getting a sick or wounded person to where they can be properly treated increase the risks to which they are exposed.

The intact body surfaces are an important barrier against germs. When the barrier is broken immediate precautions must be taken against invasion. All skin abrasions, cuts and insect bites should be treated with antiseptic cream and covered.

Hygiene cannot be effective without the knowledge and co-operation of others within a team.

Delay may turn a small scratch into an angry ulcer that takes a long period to heal.

Surface germs flourish in conditions of dirt, heat and moisture.

Cleanliness is all important.

Daily washing, short nails, short hair and drying of the body completely at least once a day are all advisable.

Particular attention must be paid to feet, and the use of foot powder and body powder.

A clean set of clothes should be kept for wear at night, even though this may mean redressing in wet, dirty clothing the following day.

Socks and underclothes should be changed and washed frequently.

Keep food covered at all times.

Never put food in plastic containers.

Never reheat food.

Wash hands prior to handling food.

All cooking utensils should be kept spotlessly clean.

Flies must be controlled from the onset.

Remember flies can travel a distance of nearly 2 kilometres.

Do not scatter rubbish - burn it and bag it.

If you do bury rubbish ensure it is deep.

Dig a hole for use as a toilet and once finished ensure that it is covered over.

Remember sand will get into everything.

Sterilise all water taken from natural sources.

Most diseases in hot climates are carried in water or by insects and animals.

If water permits, wash your clothes regularly.

Try to wash your body once a day if water permits.

Avoid nylon at all times in hot climates.

Moist, sweaty skin is an ideal breeding place for bacteria and fungi.

Dry all areas of body whenever possible.

Remember mosquitos breed in shallow pools of stagnant water - stay away from them.

Mosquitos can fly between 1 - 2 kilometres.

Sleeping quarters should be thoroughly sprayed with a reliable insecticide.

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PREPARATION

If you were to be left alone without clothes, water or food in a shade-less hot climate at the dawn of a summer`s day you would probably not see the sunset.

By the late afternoon, when the temperature could be hitting 50C (120F), you would probably sweat out about eight litres of water.

Your body would be drawing on water stored in the fat, tissues and blood eventually you would die, most likely from circulatory failure.

PRELIMINARY MEASURES

The medical fitness of any individual is an internal part of the readiness for any task and as such is the sole responsibility of that individual.

This should include:

- Eliminating from the team the unfit, including the un-acclimatised.
- Maintaining the vaccination state.
- Ensuring the individual is blood grouped.
- Ensuring that medical checks are up to date.
- Ensuring that X-Rays are up to date.
- Ensuring that all dental work has been checked.
- Maintaining standards of hygiene.
- Ensuring that the necessary facilities of medical care are provided.
- Training in matters relating to the maintenance of health and the prevention of disease.
- Training the required numbers of personnel in health, hygiene and water duties.

ACCLIMATISATION

The effect of the climate on any individual is not a simple function of the temperature.

The other factors, which are of importance are: humidity, air movement, and the effect of radiant heat, either direct from the sun itself or reflected from the ground.

The two important changes which indicate acclimatisation are:

- An increased in blood flow through the tissues
- An increased capacity for sweating.

Together these result in an increased cooling capability of the body.

It is known that a programme of graded activity best achieves acclimatisation during the first two weeks after arrival in a hot climate (due to shortage of warning for a deployment this may not always be possible).

The amount of water lost through sweat will vary according to the conditions and degree of physical activity - in hot conditions the loss can be as much as 20 litres per day.

Under no circumstance should any restriction be placed on water consumption during the acclimatisation period.

No person can be trained to do with less water than is needed to keep their sweating mechanism working efficiently.

Any attempt to condition a person to water deprivation must inevitably lead to heat casualties.

The amount of water required to replace that lost through sweat will vary with the severity of the climate and the degree of physical activity.

In extreme conditions the daily requirement may be as high as 10 litres.

Be aware some people will be acclimatised well before others.

WATER DISCIPLINE

Water is the number one priority.

When water is short, the best use must be made of it.

Frequent small drinks are better than occasional long ones

Replace fluids after perspiring.

A supply of water should not be completely consumed unless a resupply is assured.

Adults will need at least four litres a day.

Obtaining water in hot climates can be tricky; training is required.

Remember that you can survive for three weeks without food but only three days without water.

Generally in most areas there will not be a shortage of water. However, there are also areas in which the supply cannot be made fit for drinking.

To keep fluid loss to a minimum:

- Avoid exertion - try to relax / rest
- Do not smoke
- Keep cool - stay in shade
- Do not eat unless you have ample water
- Erect a shelter if natural sources are not available
- Do not lie on the ground or heated surfaces
- Never drink alcohol
- Do not talk
- Try to breathe through the nose, not the mouth

Individual Water Purification

All natural water sources - rivers, streams, ponds, swamps or wells - must be considered to be contaminated.

Principal risks are diseases of the human excremental group:

- Dysentery
- Typhoid
- Hepatitis
- Cholera

These enter the body in unpurified drinking water.

Water can be made safe by sterilisation, the best way being with sterilising tablets.

The germs of these diseases enter the body in unpurified drinking water.

A further hazard is leptospirosis, a disease spread to humans from the urine of infected rats. When free in water, the germs can penetrate the skin, so washing and bathing should ideally only take place in treated water.

Water can be made safe by sterilising it and the best means to do this is by use of sterilising tablets (normally one tablet to one litre of water).

DEHYDRATION

Dehydration becomes increasingly noticeable, as more body fluid is lost.

Water makes up 75% of the body weight.

Exercising in hot weather obviously causes you to sweat. In dry climates the sweat evaporates quickly.

Hot, humid conditions are the most likely to produce heat problems.

Everyone must be aware that the onset of dehydration can occur quickly and with little warning.

Possibly 2 - 3 hours of intense activity or 4 - 6 hours of moderate activity in a hot, humid climate, with inadequate fluid intake, can result in progressive dehydration.

Signs and Symptoms

- Rising body temperature
- Declining sweat rate
- Excessive thirst
- Dry and folded skin which folds on pinching
- Excretion of dark urine
- Infrequency of passing urine
- Mental confusion (in the latter stages)
- Irrational behaviour
- Heavy, extreme fatigue
- Muscle cramps
- Nausea / vomiting
- Progressive weakness
- Eventual heat-stroke

If an individual displays any of these signs he / she must be removed from the environment.

You cannot depend on thirst alone to key you into your body`s need for fluid.

Make yourself drink, even when you don`t feel thirsty. Better still; drink on a pre-determined schedule.

A less obvious and therefore insidious form of dehydration usually takes 3 - 5 days to occur.

The basic cause is loss of salt, which is necessary to hold water within the body.

Thirst is not a symptom of this disorder, because although you may drink, the kidneys do not retain the water.

Loss of appetite, common to newcomers to hot climates, aggravates the condition by further reducing salt intake.

To prevent all of this, try and reduce the amount of work in order to reduce sweating.

Your line of defence will be in extracting water from the earth or collecting water in a clear plastic bag in which vegetative matter has been placed.

This is known as a Vegetation Still - very useful in hot areas, especially where fleshy plants such as cactus abound.

Wherever there are plants a vegetation still will provide fresh water, with very little effort on your part.

All that is needed is a plastic bag, preferably large and clear and the vegetation itself.

Inflate the bag and secure the top and place it in the sun. Moisture drawn from the vegetation will collect in the bag.

If you can`t cut the vegetation, or if it is simply easier, you can place the bag over branches or bushes, blow it up and tie it.

Moisture will still collect.

SOLAR STILL

A solar still will draw moisture directly from the earth, but is effective if vegetation is placed under the plastic.

To make a still; you need a piece of plastic preferably one metre square and a container for the water.

Dig a hole in the ground about one metre across and 50cm deep.

Place container in centre of hole and cover with the plastic formed into a cone.

The sun`s heat raises the temperature of the air and soil below and vapour is produced.

As the air becomes saturated, water condenses on the underside of the plastic running down into the container.

The plastic cools faster than the air, causing heavy condensation.

This kind of still should collect at least half a litre over 24 hours.

A solar still can be used to distill pure water from poisonous or contaminated liquids.

METHODS OF GETTING WATER FROM A MUD POOL

Dig down into the mud until the mud becomes murky.

Using an item of clothing as an absorbent, place it over the murky water and soak it up.

Wring it out in a container and sterilise it by using a sterilising tablet.

After 15 - 20 minutes this will be fit for drinking.

CONDENSED MOISTURE

Dew can be collected from the surface of cool objects just before sunrise in hot climates where the night air is cool and moist.

Sponge it up with a cloth and wring the water out into a container.

The best dew condensers are exposed surfaces, e.g. metal, tin cans, etc.

WELLS

Look for intersecting game trails; these will normally lead you to wells or to other sources of water.

If there are old camp sites then follow the tracks out of camp - they will normally lead to old wells.

Sometimes water from a well can taste revolting and you may think it is poisonous; however, this is probably due to the high salt, alkali or even magnesium content.

All water except that drawn from plants should be purified.

SPRINGS AND POOLS

Following a rainstorm, you may find springs at the foot of cliffs or rock piles.

The vegetation that grows around a water source will differ from the drier surrounding plant life.

Spring water may have travelled for miles underground.

Filtered by sand and soil, it is clean and fresh-tasting.

If you know that it has rained in the area recently, keep an eye out for natural depressions and dips in the landscape.

SIGNS OF WATER

Some of the numerous indicators of water in hot climates include game trails, direction of birds flying and presence of plants and insects.

Birds will fly to water in the late morning or late afternoon and water can be found by following the direction of flight.

Places where animals have scratched or where insects hover may show where water lay recently on the surface.

By digging you may find some.

DIGGING FOR WATER

Dig down 1 - 2 metres (if soil is soft). If the soil feels damp, keep digging until you hit water.

If you hit dry rather than damp look for a lower point.

In some areas land is hard packed and without tools you will find it difficult to excavate the earth.

It's a good idea to include a small trowel in your individual or vehicle equipment.

If you do find a water point do not let anyone wash, clean pots or use the water upstream of this point.

By all means let them use downstream of this point for the above tasks.

This may seem obvious, but remember: never defecate or urinate near or in your water supply.

HEAT ILLNESSES / HEAT DANGERS

Medical Problems

The following heat related illnesses are commonly associated with environments like the Gulf.

- Sunburn

- Heat exhaustion
- Heatstroke
- Heat cramps
- Prickly heat
- Sore eyes

SUNBURN

Although a few fair skinned people may be burned through the fabric of their clothes, most cases of sunburn are entirely preventable.

Prevention is a matter of gradual skin exposure until a protective tan is required.

Most people do not realise that sunburn is not felt until several hours after the exposure.

If you wait until your skin turns pink or red, or becomes hot, before covering it, then it will be too late.

Danger of severe sunburn is greatest on open wastelands, deserts, open waters and beaches.

Special care should be taken during the middle of the day when the sun`s rays are strongest.

If more than two-thirds of the body is affected by sun burn it can prove fatal.

Treatment:

- Avoid further exposure - keep in the shade.
- Take pain killers if available.
- Cover all blisters with dressings.
- Do not burst blisters.

HEAT EXHAUSTION

Heat exhaustion occurs when the blood fails to reach the internal organs to remove the central core body heat.

It is caused by exposure to high temperature and humidity, with loss of body fluids through excessive sweating.

It can occur without direct exposure to the sun - lying on hot ground with poor ventilation for instance.

Signs and Symptoms:

- Fainting.
- Skin pale, cold and clammy.
- Pulse weak and fast.
- Headaches, giddiness and nausea.
- Vomiting and stomach cramps.
- May become delirious or unconscious.

Remember that the extended body temperature may not be high.

HEATSTROKE

A person who is suffering from heat exhaustion and is not treated is likely to experience a further deterioration, leading to heatstroke.

This is a breakdown of the thermal regulating mechanism of the body.

This condition is very serious.

If the body temperature rises to 41.1 C (106 F) unconsciousness will result, with death occurring if the temperature rises up to or beyond 43.3 C (110 F).

At this stage the thermal regulating mechanism has completely collapsed.

Signs and Symptoms:

- Large amounts of urine passed.
- Individual will collapse completely.
- Dry and burning skin.
- Pulse very strong and booming.
- Very high temperature.
- Face flushed and feverish.
- Sweating stops.
- Severe headaches
- Unconsciousness.

Treatment for Heat Exhaustion and Heatstroke

- Cool the patient down and keep in the shade.
- Remove clothing, dampen skin and fan patient with a shirt, etc.
- Immerse in a stream. (Be careful when doing this as a patient with a heart problem could die with the shock so test the water beforehand).
- If possible, sprinkle water over casualty rather than immersion.
- Force the casualty to drink if conscious.
- Vomiting is not uncommon - press on regardless.
- If possible evacuate casualty as soon as possible. (Preferably in an open backed vehicle to continue the cooling).
- Anticipate shock - lie casualty down and raise the legs.

HEAT CRAMPS

These are usually the first warning of heat exhaustion and occur in the muscles which are doing the most work: arms, legs and abdomen. Usually due to lack of body salts.

Symptoms:

- Shallow breathing.
- Vomiting.
- Dizziness.

Treatment:

- Move to shade.
- Drink water with little salt dissolved in it. (A pinch of salt to half a litre).

PRICKLY HEAT

This can occur whenever people are exposed to very hot conditions without acclimatisation.

Heavy sweating, coupled with clothing, can produce blockages in the sweat glands and an uncomfortable skin irritation.

Excessive sweat does not clear sufficiently quickly, the glands are blocked and the cooling effect of sweating is lost.

Taking more fluid especially hot drinks, may produce more sweat and make the situation worse.

Treatment:

- Remove clothing, wash the body in cool water and put on dry clothes.

SORE EYES

Sore eyes may be due to glare - especially in desert regions - or to excessive exposure to the sun or dust particles.

Treatment:

- Rest in shade.
- Cover eyes after washing out foreign objects.
- Bathe in warm water.

FOOD AND SANITATION

Even tiny food scraps provide harbourage for the multiplication of germs. Hands may be contaminated with excrement.

Flies obviously feed on uncovered waste and so carry disease to food.

When cooking:

- Food should be prepared with clean hands.
- Food must be protected from flies.
- Cooking pots and utensils must be cleaned properly after use.
- Boil water in the pot to ensure that all germs are destroyed.
- Do not reheat any food.
- Discard used tins (burn the insides first).

FOOD POISONING

A mild form of food poisoning can be just as incapacitating as the more virulent diseases already mentioned.

SKIN DISEASES

May be caused through lack of washing facilities, bare feet in ablutions, or lack of clothes-washing facilities.

Preventive measures are common sense. In addition to the normal skin ailments, it must be remembered that skin disorders also can be transmitted from plants and trees, but that, in itself, is a different subject.

LATRINES

Proper latrines must be established whether your camp is an overnight stay or even longer.

If you have disinfectant for the latrine **do not** use it. The disinfectants will break the waste down and kill the bacteria, then it will start to smell.

You should cover all waste over with a layer of earth or sand.

If possible try to put a cover over the latrine.

If you are in a permanent camp and the latrine starts to smell, fill in the old one and dig a new one, remembering to burn all lids or materials used in making the old latrine.