

OFFICE MEMORANDUM

R

TO : All Members of Task Unit 8.1.1

DATE: February 15, 1962

404435

FROM : Safety Office

SUBJECT: GENERAL HEALTH AND SAFETY CONSIDERATIONS--PACIFIC SITES

SYMBOL : H-3

The following information is drawn from the experiences of past operations and it is believed to warrant consideration by all visitors to the Pacific operational area.

HEALTH

The general health level of personnel while at the Pacific sites is high and unique problems are neither frequent nor often severe. The climate is not like that which people usually associate with the word "tropical"; the temperatures are not extreme, and there is generally enough air movement for comfort. The humidity is high and this largely accounts for such problems as do exist in regard to comfort and health of personnel.

Under test conditions, there are likely to be periods of relative inactivity interspersed with periods of feverish overactivity. Under the former condition, people are prone to overeat and to drink too much.

A reasonable degree of physical fitness is in general expected of individuals participating in overseas tests. Recreational programs are encouraged for maintaining physical fitness and morale.

In a warm humid environment, most individuals perspire profusely and quite high standards of personal cleanliness are a must. Underarm deodorants should be used with caution because they may interfere with the function of the sweat glands; at the first sign of skin irritation, their use should be discontinued.

A minimum of clothing is generally worn; this custom is in accord with scientific investigations of comfort under tropical conditions. However, care must be exercised in gradually exposing the skin to sun. Most individuals are able to acquire sufficient pigmentation to protect against sunburn even when constantly exposed to sun. A few people are unable to do so, and will have to use considerable caution. Fair-skinned individuals who do not tan well are especially susceptible to actinic cancer of the skin. With reasonable care, a disabling sunburn can be readily avoided. Excellent sun protective creams and lotions are now available and should be used by susceptible individuals.

Most of the specific health problems have to do with the skin. Many of the so-called "fungus" infections, "jungle rot" and the like are not primarily

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infections, but disorders of the sweat glands which have suddenly been called upon to function at a much higher level of activity. They are really an exaggerated form of what is usually referred to as prickly heat. The development of this type of skin disorder can be discouraged by avoiding undue physical exertion during the first few days in a warm humid environment, permitting gradual acclimatization. Cleanliness and careful drying of the skin after bathing is of considerable help. The ear canals of course are impossible to dry, and individuals who have had "fungus" infections (really bacterial infections) of the ear canals should use every precaution to keep water out of the ear canals during swimming or bathing (Note: be careful about wearing ear plugs in free diving more than about 20 feet because of interference with pressure adjustment.)

Feet should be kept clean and dry and socks changed frequently. Medium-weight cotton socks are preferable; color is unimportant. For those individuals with a history of difficulty with "athlete's foot", any flare-up should be reported to the dispensary. Except for extraordinarily serious medical cases, there is no reason to believe that the wearing of a stout shoe during working hours contributes significantly to any difficulties from "athlete's foot". There are a number of commercially available antifungal foot powders which are of considerable value in prophylaxis.

Contrary to the usual impression, abrasions from coral are not slower to heal than any dirty wound. Prompt dispensary care will hasten healing.

Salt depletion from profuse sweating has not been a problem in the past; normal salt intake in one's diet has been sufficient.

Although salt depletion difficulty is unlikely, the intake of salt and water should be stressed by those who are prone to constipation troubles.

All injuries and illnesses, however minor, should be reported to the dispensary. Avoid self-medication or treatment proffered by your associates. Recovery will be quicker.

There are venomous fish and shells in the area, as well as fish which are poisonous when eaten. If you engage in shell-hunting, skin diving, or fishing, you should be familiar with these.

SAFETY

In a statistical fashion, the accident experience of past operations in the Pacific has not been appreciably different than it is at the laboratories, research institutions, and industries from which personnel are drawn to make up the scientific task group. The accident types are similar to those usually associated with what might be termed "light" construction work, although there are certain specific exceptions.

Transportation by boat imposes on test personnel a unique problem and accident control in this phase of the work relies substantially on the agility and the care of the people using these boats as well as the skill of the boat crew.

Because of the ambient high humidity and salt spray, electricity, particularly low voltages, offers a problem somewhat more acute than inland locations.

Grounding of low voltage tools is a requirement at the Pacific sites. It is important that all electrical devices, particularly those having moving parts, like drills, grinders, etc., be provided with 3-wire male plugs. Not only does the high humidity and salt spray make this a greater problem than usual, but sweating also is more profuse, thus rendering an individual a much better contact through his hands and a better ground through his feet.

Since we said earlier that the general risk of a test operation was like a "light" construction job, it has been learned in past operations that personnel while at work should wear reasonably stout shoes. In the past, there has been the tendency on the part of some to assume that there is much greater comfort in the tropics in wearing such footgear as sandals, shower shoes, or the Japanese rubber slipper known as a "Getok". Such light footgear is not only unwise from the standpoint of protecting feet from injury in the working environment, but is also unsatisfactory for the sureness of foot needed for the safe transfer to and from small boats.

Transportation of personnel, long established as the great accident risk of civilization, is equally a significant risk of test operations. Aircraft, of varying types and sizes are widely used and while scientific personnel use aircraft only as passengers, there are nevertheless certain rules of conduct spelled out by the Air Force. These safety rules should receive the wholehearted cooperation of the passenger, thus permitting us to do our share in controlling aircraft risk; for example, keep well clear of propeller and rotor blades.

At some of the Pacific sites an automobile ride one mile long would be a long one. One might think that the automobile would not offer much of a problem on a tiny island. Actually, automobile accidents on previous Pacific operations were not rare. There have been collisions, upsets, and even pedestrians have been struck. It should be fairly obvious if one is going in an automobile for no more than a mile, little is to be gained by excessive speed. It is particularly important to drive at quite slow speeds, like 10 or 15 miles an hour around camps and recreational areas, since sidewalks and roads are not always well defined.

Although we have previously spoken on the personal risk in boat transportation, this problem is worth emphasis. While one must rely heavily on the agility of the individual making the boat transfer and on the coxswain, there are other things that can be done to help improve safety. One should be ever ready to receive and lend a hand to a fellow passenger and a lift in the handling of instruments and gear because having both hands free at the time of boarding or leaving a boat will substantially improve one's margin for safety. Keeping in good physical and mental condition by virtue of moderate recreational and social activities in the off hours will also contribute substantially to the safety margin.

Recreational activities at the Pacific sites are somewhat different and, therefore, interesting to those with limited experience in the tropics. The accident experience associated in recreational activities in past operations has been good and there is no reason from the safety standpoint to dissuade test participants from engaging in the recreational activities available. There are reasonable standards of individual and group conduct which, if followed, will reduce the safety problems. For example, swimming in designated areas away from boat lanes, during daylight hours and with other people nearby is not an unwarranted set of rules to place on this sport.

Sharks and barracuda are present in the waters of the Pacific sites. There have been a few untoward incidents involving them.

A moderate pursuit of recreational activities will reward the individual with interesting spare-time activities. While this, too, is a personal matter, it should be fairly obvious that an untoward incident in spare-time activity that would disqualify an individual from the accomplishment of a regular work is a substantial loss to the mission of the Scientific Task Unit.