Crew Health Precautions

Chapter 6

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Chapter 6 Crew Health Precautions

6.1 General Crew Health Requirements

6.1.1 General

6.1.1.1 Statutory Requirements

No person may serve as a crewmember knowing that he has a physical deficiency or mental condition that would render him unable to meet the requirements of his current medical certificate, to discharge his responsibilities to a safe standard or could endanger the safety of the aircraft or its occupants.

Crewmembers should not undertake flying duties whilst under the influence of alcohol, narcotics, drugs or any medicine that was not approved by the medical department for use for crewmembers like sleeping tablet.

The following factors shall be considered while undertaking flying duties by crewmembers:

- alcohol and psychoactive substance use;
- pregnancy;
- illness or use of medication(s);
- blood donations;
- surgery;
- deep under water diving;
- Fatigue occurrence on one flight or accumulated over period of time.
- Each crewmember is responsible to notify crew scheduling office and/or Operations Control Center about his/her state of unfitness for undertaking flying duties due to any of the above factors. The notification shall take place using Nesma Airlines' communications tools. Crew scheduling office shall release the reporting crewmember from assigned duty. Released crewmember shall not be reassigned for flying duties unless he is fit for duty.

6.1.1.2 Illness or Incapacitation While On Duty

Any crewmember who becomes ill or incapacitated while on flight duty or during a stopover period at an outstation must report the matter to the Pilot in Command at the earliest opportunity.

Pilots in Command should be aware that a sudden deterioration in health might be an indication of the onset of a dangerous or infectious complaint. Carriage of a flight crew or cabin crewmember who is ill is not authorized without permission from the medical department. Carriage of ill crewmember could prejudice the Company's

Position in several ways:

- International health regulations;
- Liability to the staff member concerned, should a serious illness ensue;
- Invalidation of the insurance of the aircraft;

The Pilot in Command must ensure that a doctor is called at the earliest opportunity to examine the crewmember concerned. A certificate must be obtained stating whether the individual is fit for duty, or alternatively for travel. The Pilot in Command is authorized to arrange any tests necessary to ascertain the condition of the individual concerned.

A written report must be submitted by the Pilot in Command and the crewmember as soon as practicable after return to the main base. The Pilot in Command should arrange for the arrival time of the crewmember at the main base to be notified to the Medical department.

The Pilot in Command has an overall responsibility for ensuring that all of the crew is fit for duty, even if a report of sickness is not received. Where any doubt exists, the Pilot in Command must ensure that the individual concerned is seen by a doctor and that the report from that doctor is forwarded to the main base, if possible on the flight concerned and, failing this, at the earliest opportunity.
In the case of the Pilot in Command being incapacitated the normal devolution of command to the first officer applies (refer to 4.9 Flight Crew Incapacitation).

6.1.1.3 International Regulations

The Pilot in Command must report all cases of illness on board aircraft (excluding cases of airsickness and accidents) on landing at an airport. The details are to be given in the appropriate part of the Aircraft General Declaration. Cases of ill passengers disembarked during the flight must also be reported on arrival.

6.1.2 Psychoactive Drugs

Psychoactive Substances Policy
Definition of Psychoactive Substances:
Substances that can produce mood changes or distorted perceptions in humans, to include, but not limited to, alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psych stimulants, hallucinogens and volatile solvents; coffee and tobacco are excluded.
Equivalent Term: Psychoactive Drugs Nesma airlines have a policy that:

1) prohibits personnel who perform operationally critical functions and work affecting the safety, security and quality of the operation to be under the influence of one or more psychoactive substances in a way that:
- Constitutes a direct or hazard to the user endangers the lives, health or welfare of others, and/or
- Causes worsens an occupational, social, mental or physical problem or disorder.

2) Each person who performs a safety-sensitive function directly or by contract for Nesma Airlines must be tested pursuant to an ECAA approved anti-drug program as follows:
i. Cockpit crewmember duties;
ii. Cabin crew duties;
iii. Flight instruction duties;
iv. Aircraft dispatcher duties;
v. Aircraft maintenance or preventive maintenance duties;
vi. Ground security coordinator duties;

3) The applicable procedures must prevent personnel who are identified as engaging in any kind of problematic use of psychoactive substances are removed from safety-critical functions;

4) Administration manager, Safety& Quality director and all involved departments directors/ mangers are responsible for applying the psychoactive policy in the company.

The following are some of the types of medication in common use which may impair reactions. There are many others and when in doubt a crewmember should consult the medical department.

Hypnotic (Sleeping Tablets)

Use of hypnotic must be discouraged. They may dull the senses, cause confusion and slow reactions.

Antihistamines

All antihistamines can produce side effects such as sedation, fatigue and dryness of the mouth. Quite commonly they are included in medication for treatment of the common cold, hay fever and allergic rashes or reactions. Some nasal sprays and drops may also contain antihistamines.

Tranquillizer, Antidepressants and Psychotic Drugs

All these types of drugs preclude crewmember from flight duties because of the underlying condition for which they are being used as well as the possible side effects resulting from them. Flight duties should not be resumed until treatment with these types of drugs has been discontinued and until the effects of the drugs have entirely worn off. This can take several days in some instances.

Antibiotics

The underlying condition for which antibiotics are being taken may prevent a pilot from flying. However, most antibiotics are compatible with flying. Obviously, where any hypersensitivity is feared, the suspect antibiotic must not be used. A pilot should have previous experience of the antibiotic prescribed, or, alternatively, have a trial of it for at least twenty four hours on the ground before using it during flight duties.

Analgesics (Pain killers)

With a lot of analgesics and anti-inflammatory agents, there is risk of gastric irritation or hemorrhage. Ideally doctor's advice should be sought before using them.

Steroids (Cortisone, etc.)

Use of steroids, with few exceptions, precludes flight duties.

Anti-malarial

Most anti-malarial preparations used for prevention and taken in recommended dosage are considered safe for flight duties.

Anti-diarrheas

As a lot of medications used in treating symptoms of gastritis and enteritis (diarrhea) may cause sedation, blurring of vision, etc., great care must be exercised in their usage by crewmembers. In most cases grounding for a time may be necessary.

Appetite Suppressants

These preparations can affect the central nervous system and should not be taken during flight duties.

Anti-hypertensive (Drugs for treating blood pressure)

Certain therapeutic agents are compatible with flying activity. They should be prescribed only by a doctor experienced in aviation medicine, and sufficient time must be allowed to assess suitability and freedom from side effects before resumption flight duties.

Alcohol

Alcohol, combined with most of the types of medication is a most undesirable and dangerous combination.

6.1.3 Immunization

Medical advice is to be sought concerning the period to be observed before returning to flying duties following immunization

All crewmembers are responsible for the validity of their vaccination certificates. All data concerning the period of validity of a vaccination are given in the respective document. All crewmembers shall present their vaccination certificates to the appropriate authorities when required to do so.

6.1.4 Deep Diving

Flying in pressurized aircraft after deep diving can result in the bends (decompression sickness). A crewmember should not practice deep diving to a depth exceeding 10 meters within 48 hours before a flight assignment.

6.1.5 Blood Donation

Following a blood donation the volume of blood lost is made up in a matter of some hours but the cellular content can take some weeks to return to the previous level.

Crewmembers should not volunteer as blood donors whilst actively flying.

A crewmember should not donate blood within 24 hours before a flight assignment.

6.1.6 Meal Precautions Prior To and During Flight

Cases of acute food poisoning in the air continue to occur sporadically and surveys of incapacitation of flight crew in flight show that of these cases, gastro-intestinal disorders pose by far the commonest threat to flight safety.

No other illness can put a whole crew out of action so suddenly and so severely, thereby immediately and severely endangering a flight, as food poisoning.

Any food, which has been kept in relatively high ambient temperatures for several hours after preparation, should be regarded with extreme suspicion. This applies particularly to the cream or pastry, which is commonly part of a set aircraft meal. The re-heating process usually used in aircraft for the main course of a meal rarely destroys food poisoning organisms and the toxins they produce. These toxins are tasteless and cause no unpleasant odors.

Since the most acute forms of food poisoning frequently come on suddenly 1-6 hours after contaminated food is eaten, common sense rules should be observed as far as practicable in respect of meals taken within 6 hours of a flight.

For any crewmember, before and during flight it is essential to avoid eating easily perishable foods as well as foods and drinks served cold. This is most important with milk and cream products, mayonnaise, sauces, salads, meat pies and other meat products.

In order to eliminate, as far as possible, the risk of food poisoning, the captain and first officer should not partake of the same dishes before or during a flight.

Symptoms and treatment of poisoning

The character and severity of the symptoms depend on the nature and dose of the toxin and the resistance of the patient. Onset may be sudden. Malaise, anorexia, nausea, vomiting, abdominal cramps, intestinal gurgling, diarrhea and varying degree of prostration may be experienced. Bed rest with convenient access to bathroom, commode, or bedpan is desirable. Severe cases should be hospitalized. Treatment is mostly symptomatic and all cases should be seen by a medical doctor.

6.1.7 Sleep and Rest

Although the controls on flight and duty periods are intended to ensure that adequate opportunities are provided for crewmembers to obtain rest and sleep, individuals should ensure that proper advantage is taken of such opportunities.

6.1.8 Surgical Operations

Aero-medical advice should be sought prior to returning to flying duties following any surgical operation.

6.1.9 Vision Correction

All flight crewmembers who are required by the licensing authorities to wear corrective lenses in order to satisfy visual requirements laid down for granting of licenses, are required to use the corrective lenses and to carry a spare pair of spectacles with them on all occasions whilst operating their license.
Spectacles, either corrective or anti-glare, when worn by flight crew during flight should be of a type of frame that allows maximum peripheral vision. The examination for the prescription of a spectacle correction should ideally be carried out by an examiner with some understanding of the problems of vision in aviation.

Near vision correction

Where the only correction necessary is for reading, pilots should never use full lens spectacles while flying - because the pilot's task requires frequent changes from near to distant vision and the latter is blurred by reading glasses. Half-moon spectacles or lower segment lenses with a neutral upper segment should be used in these circumstances.

Near and distant vision correction

Where correction for both near and distant vision is required, bifocal lenses are essential and pilots should discuss with their medical examiner the shape and size most suitable for each segment. Where triple correction is necessary for reading, the instrument panel range and distant vision, then specialist advice is required.

6.1.10 Humidity

The relative humidity of cabin air is much lower in flight than that to which we are accustomed. Coffee and especially black coffee, being a diuretic (kidney stimulant) can exacerbate the effects of reduced humidity. Symptoms resulting from low humidity are dryness of the nose, mouth and throat and general tiredness.

6.1.11 Diurnal Rhythm

It is a well-established fact that our bodies have a diurnal cycle or rhythm. This means that our chemical, psychological and physiological activity are high during our normal waking hours, and are low during our normal sleeping hours. They reach the lowest point at about 4 a.m. When we fly across time zones that is either east-west or west-east, we may interrupt our diurnal cycle. However, there is no proof that this is harmful to our health.
To minimize the tiring effects of interruption to our day-night biological cycle we should:

- when away from home adhere as much as possible to home time for sleeping, eating and bowel function
- take adequate rest before flight
- Eat light snacks at three or four hourly intervals to increase alertness.

6.1.12 Fatigue

Any crewmember shall not commence a flight duty or continue a flight duty after an intermediate landing if he is aware that he is too fatigued or will be too fatigued before next landing.

The basic responsibility in fatigue management rests with the individual crewmember who should report for duty in a reasonably rested state and in an emotionally fit state to perform his expected duty. This includes attention to such factors as sleep, personal fitness and health, life style and activities prior to flight. Due allowance for any adverse effects of these factors should be taken into account to ensure that fatigue which would significantly affect operating performance is not encountered during flight duties.

6.1.13 Pregnancy

Any crewmember who becomes pregnant must immediately, upon becoming aware of such pregnancy, notify her management.

Certification of "unfitness to fly" shall be in writing from the attending physician and shall indicate the expected date of delivery.

Upon receipt of such a notice, the crewmember will be removed from flying duties.

6.2 Cosmic Radiation

Nesma Airlines shall take account of the in-flight exposure to cosmic radiation of all crewmembers while on duty (including positioning) and shall take the following measures for those crew liable to be subject to exposure of more than 1 millisievert (MSV) per year.

1) Assess their exposure.
2) Take into account the assessed exposure when organizing working schedules with a view to reduce the doses of highly exposed crewmembers.
3) Inform the crewmembers concerned of the health risks their work involves.
4) Ensure that the working schedules for female crewmembers, once they have notified to Nesma Airlines that they are pregnant, keep the equivalent dose to the fetus as low as can reasonably be achieved and in any case ensure that the dose does not exceed 1 MSV for the remainder of the pregnancy;
5) Ensure that individual records are kept for those crewmembers whose are liable to high exposure. These exposures are to be notified to the individual on an annual basis, and also upon leaving Nesma Airlines.

6.2.1 Assessment of Cosmic Radiation

Assessment of exposure level can be made by using the table below or other method acceptable to the Authority.

Table 1 - Hours exposure for effective dose of 1 millisievert (MSV)

Altitude (feet)	Altitude (Km)	Hours at latitude 60oN	Hours at equator
27 000	8.23	630	1330
30 000	9.14	440	980
33 000	10.06	320	750
36 000	10.97	250	600
39 000	11.89	200	490
42 000	12.80	160	420
45 000	13.72	140	380
48 000	14.63	120	350

6.2.2 Working Schedules and Record Keeping

Where in-flight exposure of crewmembers to cosmic radiation is likely to exceed 1 MSV per year Nesma Airlines should arrange working schedules, where practicable, to keep exposure below 6 MSV per year. For the purpose of this regulation crewmembers whose are likely to be exposed to more than 6 MSV per year are considered highly exposed and individual records of exposure to cosmic radiation should be kept for each crewmember concerned.

6.2.3 Explanatory Information

6.2.3.1 Introduction

The radiation we receive comes either from outer space (constant intensity) or from the sun (intensity increasing with solar flare activity). In the first case it is produced when primary photons and particles from outside the solar system interact with components of the earth's atmosphere. In the second we have the release of charged particles. The most harmful are neutrons, protons and gamma radiation, while ultra violet (UV) radiation is insignificant in this context. During the period of high sun activity, the likelihood of solar flares is higher. These flares create an increased flux of charged particles radiation. This flux is nevertheless compensated by the reduction of galactic radiation during this sun activity period, so that the total intensity of cosmic radiation remains reasonably constant. Cosmic radiation follows an 11-year cycle, with the intensity being inversely related to solar activity. The last solar maximum was in 1991 Maximum variation is some 20%.

Natural protection from cosmic radiation is provided by the geomagnetic field and the attenuating effects of the earth's atmosphere. The level of cosmic radiation depends to some extent on the geographical position, but essentially on the altitude above the ground level; the maximum radiation level occurs at about 20,000 m.

Polar Regions have a greater radiation intensity and exposure is more important at higher altitudes.

It is worth noting that natural radiation occurs also at ground level. For example, in parts of Cornwall (UK) the natural radiation level is at about 6 MSV per year and in most of Finland is around 8 MSV per year. Similar levels are reached in Denver and other parts of Colorado (USA).

6.2.3.2 Impact of Radiations on Health

The French DGAC and the IPSN (Institute de la Protectionist de la Sûreté Nucléaire) state that no study as of today showed any measurable effect of radiation levels on crew health sustained in flight. Levels where radiation effects would start to be measurable are estimated to be around 120-150 MSV per year. With regard to flight crew mortality independent analysis of the British Airways pension scheme data and of British Airways own data for the period between 1950 and 1992 shows an increased life expectancy for pilots of between 3 and 5 years when compared to the general population. Death rates from heart disease and all cancers combined were considerably less than for the population of England and Wales. Although rare, death from melanoma (which is directly associated with sun exposure) was the only cause of cancer in excess. Cancers such a leukemia, which may be linked to radiation exposure, was lower within the British Airways pilot population.

As far as the risk of developing cancer induced by radiation exposure is concerned, it has been calculated that an accumulated dose of 5 MSV per year for 20 years increases the risk of developing cancer from 23 % (in the general population) to 23.4 % i.e. a 0.4 % increase in risk over 20 years. Compared with all the other risks encountered during working life, this is very low.

6.2.3.3 Requirements and Legal Issues

International Commission on Radiological Protection (ICRP)

In 1991 the ICRP recommended an occupational exposure limit of 20 MSV per year for exposure of crew to cosmic radiation in jet aircraft.

EURATOM Council Directive 96/29

Article 9 §1 defines the dose limits of ionizing radiation for exposed workers as follows:
"The limit on effective dose for exposed workers shall be 100 MSV in a consecutive five-year period, subject to a maximum effective dose of 50 MSV in any single year. Member States may decide an annual amount."
Particular attention must be paid to Article 42, which specifically refers to the protection of air crew. Article 42 stipulates:
Protection of air crew:
Each Member State shall make arrangements for undertakings operating aircraft to take account of exposure to cosmic radiation of air crew who are liable to be subject to exposure to more than 1 MSV per year. The undertakings shall take appropriate measures, in particular:

- to assess the exposure of the crew concerned,
- to take into account the assessed exposure when organizing working schedules with a view to reducing the doses of highly exposed aircrew,
- to inform the workers concerned of the health risks their work involves,
- to apply Article 10 (Art. 10 refers to special protection during pregnancy and breastfeeding) to female air crew"

ICAO

ICAO rules require that aircraft intended to be operated above 49,000 ft. **(not applicable to Airbus aircraft)** have to be equipped with an instrument to measure and indicate (visible for the flight crew) continuously the dose equivalent radiation.

Conclusions/Recommendation

Estimates and in-service measurements, which are the result of extensive scientific studies and airline experience, show that during flight in commercial jet aircraft the level of exposure to cosmic radiation for flight crews is well below the values specified in existing legislation or guidelines. There are no specific airworthiness requirements related to cosmic radiation that would apply to Airbus aircraft.

6.3 Tropical Medicine

6.3.1 Tropical Climate

Two types of climate can be expected in the tropical zone:

- The dry desert climate with very high day temperatures and very cold nights.
- The humid hot climate with both day and night high temperatures and humidity around 90 %.

These very hot and humid conditions can be very tiring and tend to reduce working intensity. When the surrounding temperatures are higher than those of the body, the defense mechanism of the body gives off heat in the form of perspiration. If we perspire a lot we should increase our liquid and salt intake.

It is important to protect oneself from:

- Ultraviolet radiation of the sun: This is the radiation that causes sunburn or snow blindness. Protection against ultraviolet radiation is best achieved by limiting our sunbathing to short periods, by the use of barrier creams and lotions and by the use of reliable sunglasses.
- Infrared radiation: This is the radiation that causes "sun-stroke" and can be guarded against by the use of light colored headwear.

Be careful of alcoholic intake. Siesta during the hot hours of midday is recommended.

6.3.2 Hygiene

Particular care should be taken regarding hygiene in hot countries.

Drinking Water

Supply of pure drinking water is the exception in tropical and sub-tropical areas. Water from the tap must be regarded as infected, even when it is merely used for brushing the teeth. A guiding principle should be not to drink any water that is not purified by boiling, or by chemical disinfecting (chlorinating). The common infections dealing with water are typhoid fever, paratyphoid fever, and dysentery.

Milk

Un-boiled milk can be a source of infection.

Recommended drinks

Boiled drinks and beverages in bottles. Make sure the bottles are opened in your presence.

Ice

Ice is very often contaminated. Do not use ice in your drink.

Fruit

Avoid raw fruit without peel. Use fruit that can be peeled. Safe fruits: oranges, bananas, mangoes, pineapples, etc., wash fruit before peeling. Wash grapes before eating.

Salads and Raw Vegetables

Eating salads or raw vegetables runs the risk of worm infestation or of contracting amoebic dysentery.

Meats

Eat only fresh meat that has been freshly cooked. Avoid raw or cold meats.

Fish

Eat only fresh fish freshly cooked. Avoid shellfish especially oysters.

Bathing

Use only purified pools or open sea. Fungus diseases are common in hot humid climates. When bathing, it is advisable to plug your ears with cotton wool to prevent fungus infection of ear canal. Also wear shoes at poolside to avoid fungus infection of feet.

6.3.3 Tropical Diseases

Tropical diseases are not confined entirely to the tropics but can occur almost anywhere. However their incidence and frequency are influenced by local factors.
Tropical diseases are mainly transmitted in the following ways:

- Through insect stings or bites
- Through healthy skin by other parasites
- Through food and drink
- From the ground
- Person to person

Following insects transmit disease:

- Mosquitoes transmit Malaria, Yellow Fever, Dengue Fever and Sand fly Fever
- Tsetse Fly (Central Africa) transmit sleeping sickness
- Lice transmit Typhus, relapsing fever, spotted fever
- Rat Fleas transmit Plague. Protective measures against insects:

Sleeping quarters should be free of insects. Use mosquito nets over beds. Nets should be taught and should not come in contact with body, or use insecticide. Protect the skin by using an insect repellent.

Following diseases are contracted through the skin:

- Bilharzia: Aquatic snails act as intermediaries. The larvae of worms pass from such snails into the water and on contact with the skin into the human body.
- Weil's disease: The germs of this disease are excreted in rat's urine. They can penetrate the skin of bathers.
- Fungus Diseases: The fungus is present in tropical and sub-tropical inland waters, in shallow rivers and lakes, hardly ever in seawater.

Protective measures to avoid contagion through the skin:
Avoid inland water. Bathe only in pools with purified water or in the sea. Use cotton wool earplugs. Wear shoes when walking around the pool.

6.3.4 Main Tropical Diseases

6.3.4.1 Amoebiasis (Amoebic Dysentery)

Causative Parasite:

Amoebiasis is due to the ingestion of a unicellular parasite, the Endameba Histolytic. This is followed by an infection of the intestinal tract.

Distribution:

Although most prevalent as an endemic disease of tropical and sub-tropical countries, insanitary disposal of excreta and primitive methods of water purification may result in its introduction into temperate zones.

Source of Infection:

Water polluted by infected faces is the commonest source of infection, hence the prophylactic importance of safe drinking water. Other sources of infection are, foods grown on soils matured by infected excreta, flies and food handlers.

Clinical features:

Clinically the disease is characterized by an insidious onset, frequent febrile relapses and a tendency to chronicity. Diarrhea is the outstanding symptom, but it may be absent. There is abdominal pain with blood and mucus in the stools.

Complications:

- Inflammation of the liver
- Liver abscesses
- Inflammation of the gall bladder and bile ducts.

Treatment:

Consists in rest, diet and a course of therapy, which varies with the type of case.

Prophylaxis:

No vaccination or inoculation is available, nor is there any chemical prophylaxis Such as is used to prevent Malaria. General hygiene measures.

6.3.4.2 Malaria

Transmission:

Infection takes place through the bite of an infected anopheles mosquito and transmission of the parasite into the human blood stream.

Geographical distribution:

Variable, consult medical department.

Incubation period:

The incubation period usually ranges from 10 to 35 days.

Morbidity:

Malaria causes several million deaths each year.

Symptoms:

An acute, sometimes chronic, often recurrent, febrile disease characterized by periodic paroxysms of chills followed by high fever and sweating due to the presence of parasites in blood. The early stage of the illness can very easily be confused with many other infectious diseases, the more so if this occurs after return to a temperate region where your doctor may not think immediately of the possibility of Malaria.

Prophylaxis:

Preventive measures include use of insect repellent sprays to protect skin, screens on doors and windows, mosquito netting in bedrooms, sufficient clothing to cover as much as the skin surface as possible against mosquito bites (this is important after sundown).
It is not possible to produce permanent immunity either chemically or by the use of vaccines. Therefore chemical prophylactic drugs are only effective as long as they are taken regularly.

Treatment:

Under medical supervision. Malaria can be fatal if treatment is delayed. Therefore after having been in a malarial area, if you feel unwell or have an unusual temperature within four weeks of leaving the area, tell your doctor; don't wait to be asked.

6.3.4.3 Typhoid and Paratyphoid Fevers

They are ingestion diseases characterized by high fever and intestinal symptoms.

Transmission:

Typhoid fever is conveyed by water contaminated by sewage; by articles of food grown in or gathered from water, e.g. shellfish and watercress; or by diary or cooking utensils washed in such water.
Paratyphoid fever is rarely water borne; recorded epidemics are few. The disease is usually disseminated by foodstuffs contaminated by carriers.

Incubation Time:

From seven to twenty-one days.

Geographical Incidence:

The disease is likely to occur wherever the water supply is impure. Generally speaking the less satisfactory the sanitation and more prevalent is enteric fever.
However, with the use of adequate drugs, cases of death are now rare.

Symptoms:

Vague symptoms of illness tending to increase in severity throughout the first week. Lassitude, frontal headache, general aches and pains, disturbed sleep, anorexia and thirst, abdominal discomfort, temperature rising to 40°C, diarrhea with or without bleeding.

Precautions:

Strict hygiene of food and drink.

Prophylaxis:

Is by inoculation. The inoculation is not an international requirement for entry into any country. Inoculation is strongly recommended when travelling to regions of poor general hygiene.

Note: Aircrew should not fly within 48 hours after inoculation. Inoculation may be followed by a slight general feverish reaction.

6.3.4.4 Cholera

Geographical Distribution:

Outbreaks of the disease usually are explosive and limited. Cholera is endemic in many areas of Asia.

Transmission:

Cholera is spread by the ingestion of water and foods contaminated by the excrement of patients.

Incubation period:

Is short, usually 1 to 6 days.

Symptoms:

Sudden onset. Initial symptoms are nausea, vomiting and diarrhea, with variable degrees of fever and abdominal pain.
If diarrhea is severe the resultant dehydration may lead to intense thirst, muscle cramps and weakness.

Prognosis:

In many cases the outlook depends largely on early and adequate therapy.

Prophylaxis:

Strict hygiene of food and drink, in many countries cholera has been controlled by the purification of water supplies, proper disposal of human excrement.

6.3.4.5 Dysentery

Definition:

An acute infection of the bowel, characterized by frequent passage of stools accompanied by abdominal cramps, malaise and fever.

Incidence:

Incidence is world-wide, but it is particularly common in hot climates.

Source of Infection:

The source of infection is the excreta of infected individuals. Organisms are spread from individual to individual by the direct faucal-oral route. Indirect spread by contaminated food and inanimate objects is common, but water borne disease is rare. Flies serve as carriers.
Epidemics occur most frequently in overcrowded populations with inadequate sanitation. It is particularly common in younger children living in endemic areas, whereas adults of these regions are relatively resistant to infection and usually have less severe disease.

Incubation period:

Very short, some hours to a few days.

Symptoms:

Depend on severity. May have painful colicydiarrhoea. Maybe raised temperature and vomiting. The disease usually shows great individual variation.

Prophylaxis:

There is no effective inoculation. Strict hygiene of food and drink.

Treatment:

There are many effective medicines available for disinfection of the gastrointestinal tract. It is advised to consult a doctor.

6.3.4.6 Yellow Fever

Definition:

An acute infectious virus disease occurring in tropical and sub-tropical zones.
Geographical Distribution:
Particularly in tropical Africa and South and Central America. Unknown in Asia.

Incubation period:

3 to 6 days.

Causative Organism:

The virus that causes the disease is transmitted by the bite of a female mosquito, which previously has become infected through feeding on the blood of a patient during the early stages of an attack.

Symptoms:

Characterized by sudden onset, fever with relatively slow pulse, the face is flushed, eyes infected, gums congested, tongue red and pointed. Vomiting and constipation are common. Jaundice appears after the third day.

Prophylaxis:

By inoculation. Period of validity of vaccination is ten years.

6.4 Procedure - Absence Due to Sickness "Sick Leaves"

A crewmember reporting sick for a period over twenty four hours must submit a sick report issued or approved by Nesma Airlines subcontracted Medical Department. If the sick leave extends for seven days or more, a fitness report is required.

Sick leave for twenty four hours is permitted without a sick report. This privilege is limited to three times per year, after which every sick leave will require a sick report; further sick leave is subject to a Full Medical Exam from Egyptian Civil Aviation Medical Department.

At the end of every 3 months, a complete record of sick/emergency leaves will be prepared by the Crew Scheduling Section. Any abuse of such leaves will be investigated which may entail:

1. Drawing of attention,
2. Referral to the disciplinary committee at Nesma Airlines Head Office, which could entail a salary deduction.

Note: The above procedure is granted once a year, if it is repeated the leave will be considered without pay

6.5 In Flight Medical Emergencies and Illness

6.5.1 Diversion for Medical Reasons

When a passenger or crewmember becomes acutely ill and apprehension exists about the passenger's ability to survive the flight, diversion to the nearest appropriate facility must be considered. The Captain should bear in mind that his cabin crew has all been suitably trained in first aid, and accept their advice accordingly, or the presence of a doctor on board. In an attempt to limit the number of diversions to those that are essential, an effort should be made to obtain some medical opinion on the necessity to divert.

1. Nesma Airlines should be informed, if possible, by direct radio contact. Ascertain the following:
   - Age;
   - Symptoms i.e. of what does the passenger complain;
   - Is there any complaint of pain? If so where and how severe;
   - Any past history or similar illness;
   - Is he/she taking any drugs – if so, what?
   - What is the pulse rate?
   - What is the color of the lips?
   - What is the conscious state? alert, drowsy, unconscious;
   - Since cabin staff became aware of the passenger's condition, has it deteriorated; remained static; improved
   - What measures have cabin staffs taken to treat the passenger?
2. If there are any medical practitioners, and/or nursing sisters on the aircraft, and they are willing to help, obtain their opinion on the passenger's conditions and necessity for urgent medical treatment.
3. Remember, in a diversion to an alternate airport that there may not be any medical facilities at the airport, and up to an hour may elapse before the patient gets medical attention at that airport – it may often be more prudent to continue to the destination and radio ahead for medical facilities on arrival. If possible, Dispatch section should be contacted (by any means) at the earliest opportunity stating the nature of the problem and the intentions of the Captain. If applicable, dispatch should be asked to alert the Medical Unit at the destination airport, giving relevant medical details and whether or not an ambulance is required.
   - If a flight diverts due to a medical emergency, the afflicted person usually leaves the aircraft for diagnosis or treatment. If the afflicted person insists on continuing the flight, he should be examined by a physician. If the physician advises that further travel threatens the person's life, the person must not be carried further on. If the physician advises that further travel is undesirable, but does not threaten the person's life, the person may be carried if he signs the following statement: "I acknowledge that the examining physician has recommended against my onward travel on TAS --- ----- from -------- to, but I elect to continue despite this advice". If the person refuses to sign this statement, he may still be carried if there are at least two witnesses to the refusal. Any person may be a witness. The CDC will obtain names and addresses of the witnesses and describe incident in his report. If the physician advises that there is no medical reason to prevent the passenger's travel, the person may be carried without further questions. In any event, the name and address of the examining physician should be recorded in the CDC's report.

6.5.2 Medical Conditions That May Require an Unscheduled Landing

The items listed below are only for reference, they are not the only condition that may require for an Unscheduled Landing:

- Stoppage of breathing and pulse.
- Unconsciousness.
- Severe shock.
- Uncontrollable bleeding.
- Internal bleeding.
- Heart attack.
- Recurrent Epileptic fits.
- Retained Placenta

6.5.3 Infectious Disease

From time to time the situation arises whereby the crews' attention is drawn to the fact that one of the passengers has an infectious disease. On many occasions this passenger is a small child covered in spots that may well be any of the common childhood illnesses such as measles, chicken pox or rubella.

When making the decision as to whether or not one should carry this passenger the following points should be taken into consideration:

1. With many of the infectious illnesses, by the time the rash has appeared the actual infective period is virtually over. This means of course that the people who are suffering from an infectious illness such as chicken pox are in fact at their most infectious stage when they have no visible signs of the illness and are mixing with the general population.
2. Many simple viral infections, which are not particularly infectious, cause spots and rashes that in many ways are similar to the commonly known infectious illnesses. It is often medically impossible to determine whether the rash is in fact that from a common infectious illness or that from a simple viral infection.
3. Infectious diseases are spread by droplet infection and the infected individual has to actually cough or sneeze into the face of a non-immune individual for there to be any possibility of infection. If a child or individual is thought to be infectious, adequate precautions can be taken by sitting the child between parents, preferably at a bulkhead seat, and telling the parents not to let the child move around the aircraft unnecessarily. If the infectious individual is boarded first, and remains in their seat, it makes it virtually impossible for cross transmission of infection to occur.
4. Common infectious diseases such as mentioned above are endemic in the population and consequently most of the population have immunity to this illness and will not be able to transfer the illness through themselves to a third party. These illnesses also exist in all other countries and are endemic to the same extent as they exist in Egypt, hence there is no problem transporting a new illness into another country.
5. The infectious illnesses which Port Health are most likely to be interested in are those which relate to gastro enteritis type illnesses (i.e. generally associated with vomiting and diarrhea and hepatitis), and these are rarely associated with a skin rash. These people should be treated as infectious in the same manner as those above, and preferably sat beside friends or relatives and requested not to move around the aircraft unless absolutely necessary.

If cabin crew aboard aircraft inbound to Egypt or an overseas country suspect that a passenger is running a temperature or may have an infectious illness or be suffering from food poisoning, they must inform the Captain and ask him to contact Dispatch / Agents giving details of the case and asking them to alert the Airport Health Control Unit.
This should be done as soon as possible on Company R/T frequency or by relay, in order to give Health Control the maximum warning period so that arrangements can be made for qualified personnel to meet the aircraft as it arrives on Stand.
International aviation facilitates the transmission and spread of infectious disease and the increasing incidence of confirmed cases arriving from overseas, makes this action particularly important.

6.5.4 Suspect Food Poisoning

If a meal, whether presented to a crewmember for consumption, or to a passenger, is suspected of being the cause of food poisoning in flight, the meal, or the remains of it, should be retained separately by the Cabin Crew and Dispatch must be contacted as in (a) above, with a request to arrange collection of the meal and subsequent analysis and also to alert the Airport Health Control Unit.
Arrangements can be made with the public health authorities to have suspect meals analyzed on request. This service is only to be used for genuine suspected cases of food poisoning, not for food which is unappetizing or badly presented.
Cases of acute food poisoning in the air continue to occur sporadically and surveys of incapacitation of flight crew in flight, show that, of these cases, gastrointestinal disorders pose by far the commonest threat to flight safety.
Any food, which has been kept in relatively high ambient temperatures for several hours after preparation, should be regarded with extreme suspicion since even severe contamination is rarely obvious. This applies particularly to the cream, pastry or trifle type of dessert, which is commonly part of a set aircraft meal. Also, very thorough cooking is necessary to destroy food poisoning organisms and the toxins they produce and this is rarely achieved in the reheating process frequently used in aircraft for the main course of a meal. Since the most acute forms of food poisoning come on suddenly 1– 6 hours after contaminated food is eaten, common sense rules should be observed as far as is practicable in respect of meals taken within 6 hours of a flight. In particular, shellfish, especially mussels and oysters that have an ability to concentrate poisoning organisms in the edible part of their flesh, should be avoided.
Crewmembers must not accept any food (including sweets), wrapped or unwrapped, for consumption within eight hours prior to or during a Flying Duty Period, from passengers or from persons unknown to them. This is because cases have been reported where irresponsible passengers have offered crewmembers in flight, dry contaminated “goodies”.
To reduce the danger of simultaneous incapacitation, the Captain, whenever possible must be served different main and subsidiary dishes from those served to the First Officer and preferable at staggered times (30 minutes minimum of separation time). This applies equally to preflight and inflight meals and includes sandwiches.

6.5.4.1 Cutlery on the Flight Deck

Great care should be taken of cutlery on the flight deck. A lost item could cause a serious situation if it should find its way into the mechanism of the aircraft controls.

6.5.4.2 Spilled Liquids Etc. on the Flight Deck

Spilled liquids can cause the malfunction of safety-critical electronic or electrical equipment and extreme care must be exercised when handling drinks on the flight deck.
A defect symptom entry must be made in the Technical Log when a drink has been spilt on any electrical panel.

6.5.4.3 Communicable Diseases Procedures

1) The pilot-in-command of an aircraft shall ensure that a suspected communicable disease is reported promptly to air traffic control, in order to facilitate provision for the presence of any special medical personnel and equipment necessary for the management of public health risks on arrival.

2) The flight crew of an en-route aircraft shall, upon identifying a suspected case(s) of communicable disease, or other public health risk, on board the aircraft, promptly notify the ATS unit with which the pilot is communicating, the information listed below:

- **a)** Aircraft identification;
- **b)** Departure aerodrome;
- **c)** Destination aerodrome;
- **d)** estimated time of arrival;
- **e)** Number of persons on board;
- **f)** Number of suspected case(s) on board; and
- **g)** Nature of the public health risk, if known.

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Flight Time Limitations

Chapter 7