# *The Oilfield Guide*
# to vaccinations

by Dr. Alex Barbey
illustrations by Helbé

**1997**

Schlumberger

Document Approved by the Oil Industry International Exploration & Production Forum, Health Committee, London, United Kingdom

# Preface

*People who travel to or live in countries where sanitary and climatic conditions are different than those they usually face at home risk exposure to and even death from certain highly infectious diseases.*

*Many of these infectious diseases can be prevented by vaccinations. Dr. Alex Barbey's "Oilfield Guide to Vaccinations" represents an in-depth study of the various vaccines available in 1997.*

*The clear and concise information presented in this brochure should allow each person to determine which vaccinations are necessary for the area and living conditions to which he or she will be exposed.*

*The traveler should also not forget that each trip, whether for business or pleasure, is a valuable opportunity to update the standard vaccinations required in his or her home country.*

***Dr. Catherine Goujon***
***Medical Director***
***Department of Vaccinations and Advice to Travelers***
***Hôpital de l'Institut Pasteur***
***Paris, France***

HÔPITAL
DE L'INSTITUT
PASTEUR

# The aim of this brochure

*This brochure was prepared for people who work in the oil and gas exploration and production industry. It targets both expatriate and native employees and their families.*

*Those born and raised in a high-health-risk country usually come into contact with many local germs during their childhood and have built up their own natural immunity to many diseases.*

*But the travelers to a high-health-risk country usually have no natural defense against these "new" diseases. Because they have no natural protection, it is essential for travelers to be vaccinated correctly before leaving home.*

*Therefore, this brochure is divided into specific chapters : those that concern everyone, no matter where they live and work, and those that target specific travel or risk.*

*The goal of this brochure is that readers will update vaccinations for themselves and their families and thereby greatly reduce the risk of illness when traveling as well as at home.*

*The information contained herein is based on internationally accepted facts and recommendations. There may, however, be slight differences from one country or one company to another concerning vaccination schedules or recommendations on certain shots or boosters. If you have any questions, do not hesitate to contact a vaccination center near home or your company's medical officer.*

***Dr. Alex Barbey***
***Schlumberger International***
***Health Coordinator***

The recommendations and practices described in this brochure should be considered only as valuable advice. They cannot replace a personalized and adapted consultation by a medical professional.
Therefore, the author and the participating companies disclaim all and any liabilities resulting from the implementation of the health prevention recommendations and practices described in this brochure, including but not limited to personal injury or illness.

# TABLE OF CONTENTS

# Introduction

We often take for granted the fact that many fatal diseases described in history books no longer exist or occur only rarely in some far-off part of the world.

This is due mainly to vaccinations.

The first vaccination was discovered in 1796 by Edward Jenner against smallpox. In the 1700s this fatal disease was responsible for killing 10% of the world's population. Thanks to a systematic worldwide vaccination campaign, it has completely disappeared from the face of the earth. The last reported case of smallpox was in 1977 in Somalia.

Vaccinations have become an integral part of our lives. However, each year a few hundred nonvaccinated people die in the modern world from tetanus or become paralyzed with polio.

Some people are more "fragile" than others when faced with disease. This is particularly the case for children and travelers.

- Children are born with no immunity to disease (they have a residual immunity after birth from the mother that protects them for 6 months only).

- During their lives, people build natural immunity by coming into contact with external agents (bacteria, viruses, etc.).

- Travelers may come into contact with diseases for which their bodies have no immunity.

# What is a vaccination?


A vaccine is a product obtained from dangerous bacteria or viruses that have been killed or sufficiently weakened so that they can no longer cause a disease when injected in someone's body. However, it still contains the information capable of provoking a reaction in the human body. This reaction produces what is called an **antibody.**

From the first shot or **initial vaccination**, the body starts to produce antibodies: the individual's memory in its fight against disease. Antibodies stay alert, ready to combat a specific disease should it ever attack.

However, like old memories, antibodies fade away with time and have trouble after a few years in recognizing the attacking bacteria or virus. Therefore, the body's immunological memory, or capacity to produce antibodies, must be refreshed and reinforced at regular intervals to replenish and recharge the stock of circulating antibodies. This is the purpose of a **booster shot**.

# Vaccinations and the traveler

Vaccinations should be administered a sufficient amount of time before leaving home.

Give your family and yourself enough time to have the entire course of shots performed.

All vaccinations require a few days (usually 8 to 15 days) before they are actually protective.

Yellow fever, rabies and Japanese encephalitis shots, for example, start protecting the individual 10 days after the injection.

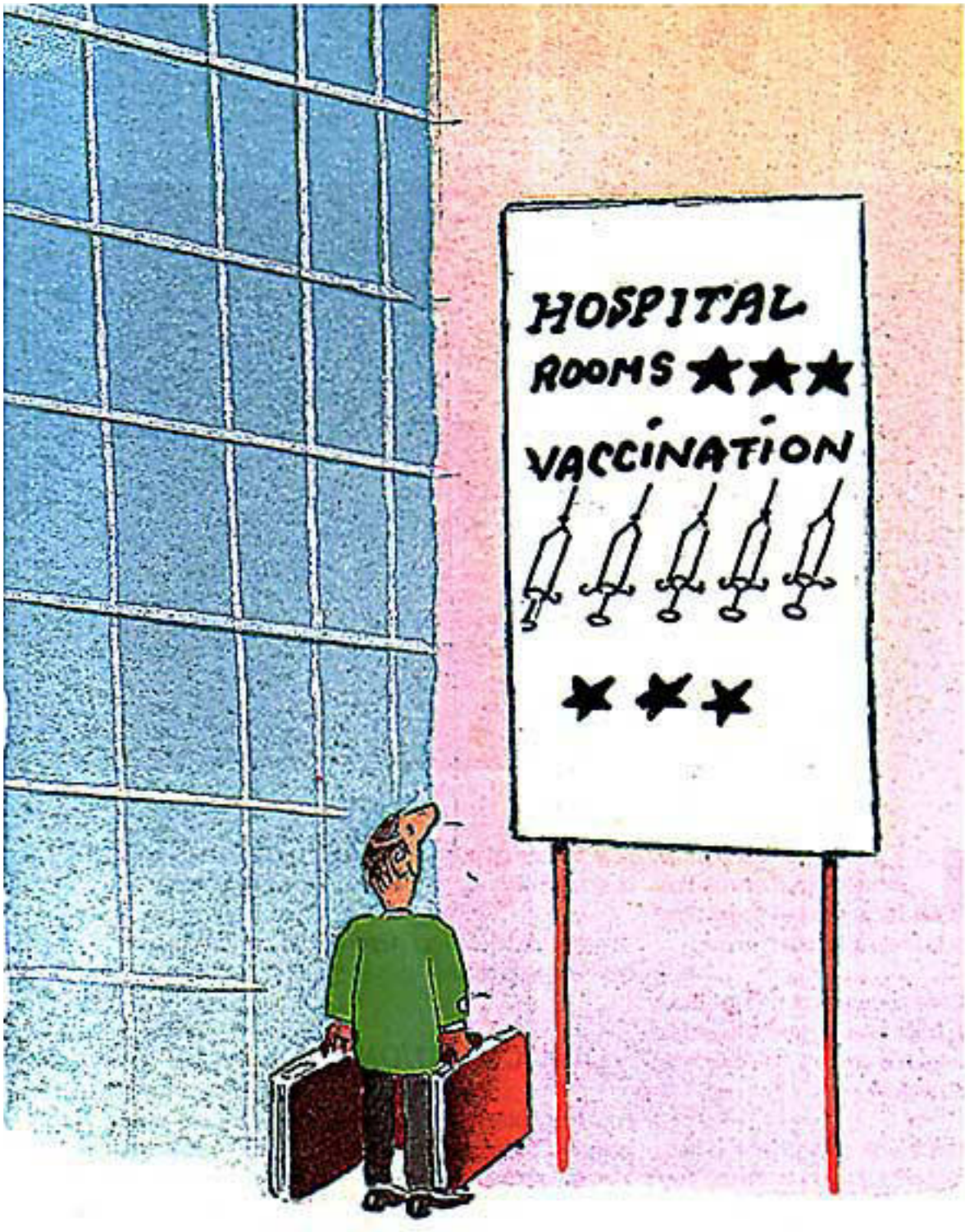
A hepatitis A shot requires 15 to 20 days before it provides protection.

- Whenever possible, use only company designated, certified or recommended medical centers. Otherwise there is no guarantee of the quality of the vaccine, and the risk exists that you will be vaccinated with a used needle or syringe, thereby increasing the risk of catching acquired immune deficiency syndrome (AIDS) or hepatitis B.

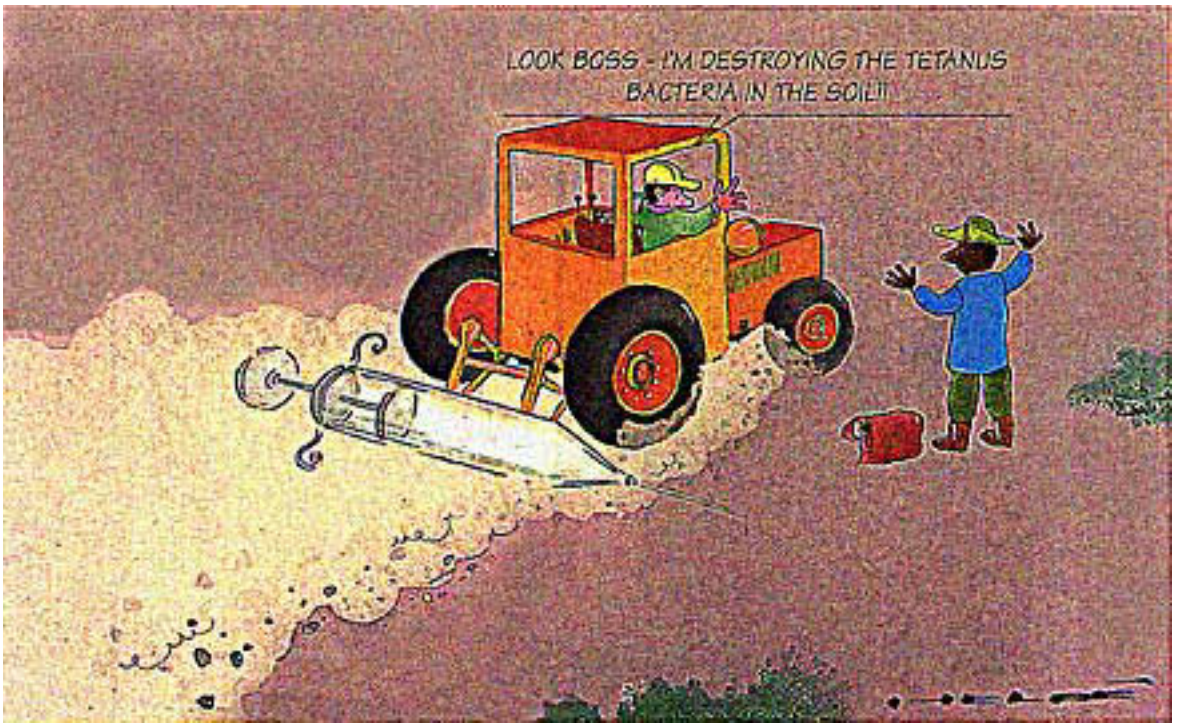
- Keep your vaccinations up to date and recorded on an International Vaccination Certificate (yellow booklet provided by the World Health Organization [WHO]).

- Do not forget booster shots.

# Mandatory or baseline vaccinations that everyone must have



# Tetanus




Tetanus, or "lockjaw," is a deadly disease caused by bacteria that are found in soil. These bacteria enter the body through a cut, wound or even a small abrasion.

Once inside the body, the bacteria produce a deadly poison or toxin. The incubation period varies from a few days to a few months.

Tetanus occurs all over the world.

## *VACCINATION*

For continuous protection, two shots (three for children) at 1 month intervals are necessary with a booster 1 year later, and then every 10 years (5 years for children).

Nonvaccinated individuals who are cut or wounded should receive both a "tetanus immunoglobulin" shot which provides a 3 week passive immunity, and the vaccination against tetanus, which will build an active immunity by producing antibodies.

# Polio


Polio is a viral disease affecting children and adults that is transmitted by direct contact. The virus probably enters the body through the mouth.

The polio virus multiplies in the central nervous system and provokes severe paralysis, which results in deformities and atrophy of the muscles. It can result in death.

Polio occurs all over the world but most frequently in developing countries. A worldwide health campaign has been launched by WHO to eradicate polio worldwide by the year 2000.

## *VACCINATION*

There are two forms of the polio vaccine:

- injectable Salk vaccine (inactivated virus) or IPV
- oral Sabin vaccine (live virus) or OPV.

Both vaccines require two doses (three for children) at 1 month intervals, a booster after 1 year and then every 10 years (5 years for children). The injectable form can be administered in the same syringe with the tetanus vaccination.

# Vaccinations highly recommended for travelers

JUST KEEP MOVING BACK... YOU'LL GET ALL THE SHOTS AT ONE TIME!

# Hepatitis A


Hepatitis A is a viral disease transmitted by contaminated water and food. It is linked to poor hygiene and sanitation, or what is called "fecal risk" (contact between feces and water).

Hepatitis A is fairly common around the world, but it is rarely as serious as the other form of hepatitis, hepatitis B. However, the symptoms of both diseases are basically identical, including jaundice, fatigue and nausea.

Until recently the only protection from hepatitis A was to disinfect water, wash hands, cook all foods, avoid contact between sewage or fecal waste and drinking water, and receive an injection of relatively ineffective immunoglobulins, which provided a few weeks of protection at best.

## *VACCINATION*

A vaccination has been recently developed for hepatitis A.

The vaccine requires one shot, a booster 6 to 12 months later and then every 10 years. It can be administered at the same time as the vaccination for hepatitis B.

The hepatitis A vaccination becomes effective 2 weeks after the shot is given.

A weaker dosage of the hepatitis A shot is given to children.


Hepatitis B is also a viral disease, but it is transmitted almost exclusively through sexual intercourse (homosexual or heterosexual) and through blood and blood related products (transfusions, contaminated needles or syringes, and other invasive medical or surgical procedures using nonsterile or nondisposable materials). Its transmission is identical to that of the AIDS virus (sex and blood). It has been demonstrated that the hepatitis B virus can also be transmitted through saliva to an open wound or bleeding lesion.

Hepatitis B can lead to deadly chronic hepatitis, cirrhosis or liver cancer. It is highly endemic in Africa and Asia and affects an estimated two billion people around the world. Two million people die each year from hepatitis B.

Prevention of hepatitis B is based mainly on:

- abstinence or condoms and "safe sex"
- use of disposable medical materials: needles, syringes, etc.
- sterilization of all nondisposable materials: dental, endoscopic equipment, etc.
- avoidance of blood transfusions, unless absolutely necessary, and only after ensuring that the blood is uncontaminated
- vaccination.

**Note:** There are other strains of hepatitis called C, D, E and G. (There is no hepatitis F). They are transmitted in similar ways to hepatitis A and B. There is no vaccination at the present time for any of these forms, which are relatively rare in comparison with hepatitis A and B.

## *VACCINATION*

This highly effective vaccine requires two shots at a 1 month interval with a booster 6 to 12 months later and then every 5 years. It can be administered in association with the hepatitis A vaccination. A new vaccination combining hepatitis A and B in one shot will probably be commercialized soon.

# Typhoid fever

Typhoid is an infection caused by salmonella bacteria. Although rarely fatal, thanks to antibiotics, it can still provoke severe diarrhea.

Typhoid occurs worldwide, but is most common in areas with poor levels of hygiene and sanitation. It is transmitted by "unclean" water and contaminated food linked to fecal risk.

Prevention is based on washing hands before meals, drinking bottled water or water that has been disinfected (boiled or chemically treated), avoiding foods that cannot be cooked, boiled or peeled, and receiving a vaccination.

## *VACCINATION*

Two types of vaccine are used depending on the country:

- injectable, inactivated vaccine that requires one injection
- oral, attenuated vaccine that requires three doses.

Both types of vaccine provide good, although not complete, protection for 3 years. A newer, more effective typhoid vaccine is under development.

# Yellow fever


Usually fatal (acute kidney and liver failure), yellow fever is transmitted by mosquitoes.

This disease is found in tropical regions of Africa as well as parts of Central and South America.

Yellow fever prevention is based on insect-bite prevention (impregnated bed nets, insect repellents, window screens, protective clothing, electric diffusers, coils, etc.) and most importantly, a highly effective vaccination.

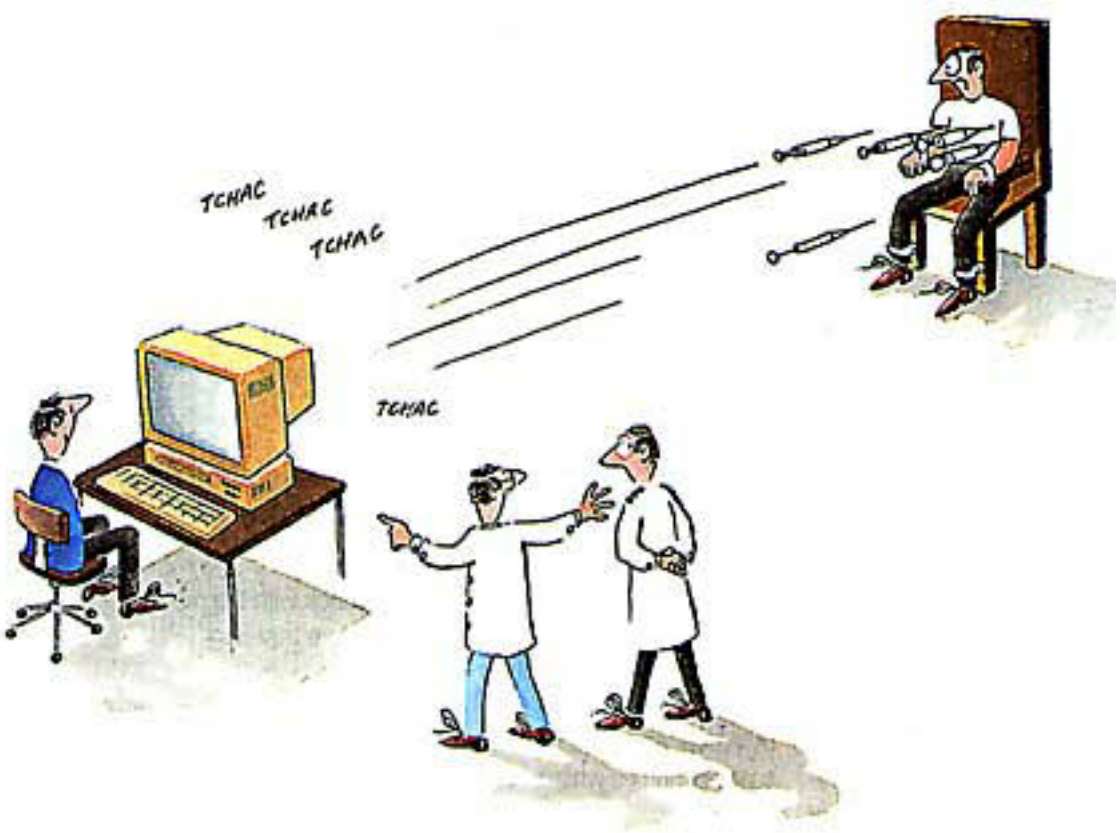
## *VACCINATION*

This is the only mandatory vaccination for travelers to many parts of Africa and South America. In some countries where yellow fever is endemic, although the yellow fever vaccination is not legally mandatory, the risk is significant, and therefore the vaccine should be also systematically administered. It must appear on the International Vaccination Certificate (WHO yellow booklet).

A yellow fever vaccination is also mandatory for entry into many countries when coming from a yellow fever infected or endemic area (check with the medical authorities before traveling).

One injection provides protection for 10 years. This vaccination must be administered at least 10 days prior to departure and, in many countries, can be performed only in specially designated medical centers. The injection can provoke, in rare cases, fever, headaches and joint pain in the following days.

It should not be administered to children under 6 months of age. Pregnant women should consult a doctor, who will advise on this vaccine.


TCHAC
TCHAC
TCHAC
TCHAC

# Other useful vaccinations


Vaccinations indicated in this chapter should be administered only following medical advice.
These vaccinations are for specific "high-risk" travel with regard to particular living conditions, the local health situation or epidemics.

# Cerebro-spinal meningitis (A and C)


Cerebro-spinal meningitis is a serious and often fatal disease that is transmitted from one individual to another through respiratory tract secretions (coughing, sneezing, etc.). It occurs mostly in children and young adults. It produces an inflammation of the fluid and envelope covering the brain and spinal cord.

This disease is caused by the meningococcus bacteria (strains A and C) that occurs in many parts of Africa, South America and the Middle East. Epidemics of meningitis are frequent during the dry season.

Symptoms include high fever, a stiff neck, headache, nausea and vomiting. Neurological symptoms appear rapidly with sleepiness, reduced alertness, seizures and eventually coma.

## *VACCINATION*

The meningitis vaccination is highly recommended for those traveling or living in high-risk areas (particularly children). One shot provides protection for 3 years against meningitis A and C.

**Note:** The B strain of meningitis is not prevalent in Africa, South America or the Middle East. Although there is no vaccination against meningitis B, antibiotics are extremely effective.

# Rabies


Often fatal, rabies is a viral disease transmitted by an animal's saliva. It occurs mostly in people bitten by stray dogs or other animals (bats, foxes, squirrels). The victims are usually children.

The incubation time for rabies is from a few days to a few months, depending on the depth of the wound and its location.

Rabies occurs in almost all thirdworld countries. In some countries, more than 30% of all stray dogs are contaminated.

## *VACCINATION*

The preventive rabies vaccination requires two to three injections performed within a 1 month period, with a booster shot 1 year later and then every 3 years.

Emergency treatment under medical supervision for a bite from a stray animal consists of six injections (antirabies serum or immunoglobulins) within a 90 day period. When the risk of rabies is high (serious and deep facial wound, for example), chances of survival are greater in those individuals who received the preventive vaccination as well as the antirabies serum.

The rabies vaccination may be difficult to find in third-world countries. Because this vaccination is important for people living in high-risk areas, particularly for children, travelers should have it administered before leaving home.

# Japanese encephalitis


Japanese encephalitis is an often fatal viral disease that attacks the brain and spinal cord. It is a rural disease transmitted by mosquitoes that occurs during the summer in rice paddy regions.

The mosquito bites during the night. After a 7 day incubation period, symptoms may include headache, fever and disorientation. The disease can lead to convulsions and death.

It is found in Japan, Korea, China, India, the Philippines, Southeast Asia and the eastern part of Russia.

Prevention of Japanese encephalitis is based on insect-bite prevention (impregnated bed nets, insect repellents, window screens, protective clothing, electric diffusers, coils, etc.) and a highly effective vaccination.

## *VACCINATION*

The vaccination is recommended for long stays (a month or more), in areas where the disease is both endemic and prevalent. It is also recommended for people staying less than a month who will be spending most of their time in rural areas during the transmission season.

It requires two shots at a 1 week interval with a booster shot 1 month later and every 3 years thereafter.


Tuberculosis is a bacterial disease transmitted by coughed-up phlegm.

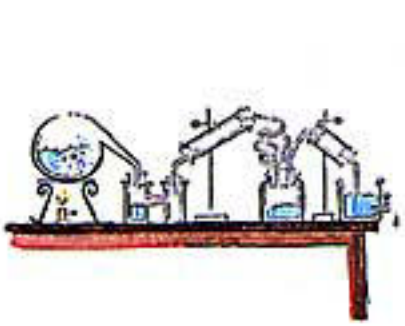
Tuberculosis infects the lungs and also the bones, kidneys and brain. Diagnosis is suspected on a chest X-ray and confirmed by other tests. Treatment requires 6 to 12 months of antibiotics. It can be fatal.

Tuberculosis occurs worldwide, but is most common in poor areas where hygiene and health standards are deficient.

## *VACCINATION*

One injection (BCG) provides effective protection for many years. It is mandatory in 60 countries. Although it is not performed in some countries (U.S.), this vaccination is highly recommended by the WHO for children and adolescents when a long stay is planned in a high-risk country. It should be performed only after verification by a tuberculin skin test. Check with your medical adviser before leaving home about this vaccination.

# Cholera




Cholera is a bacterial disease transmitted by contaminated water, food or dirty hands (fecal risk). Cholera provokes massive diarrhea and dehydration, which can lead to death. Treatment requires antibiotics and rehydration.

In South America, Africa, Asia and parts of the Middle East, it reappears in epidemic forms where hygiene and health standards have disappeared.

Prevention is based on obtaining "clean" water through disinfection (boiling water, chemical disinfection, etc.), washing hands before eating, cooking all foods and avoiding contact between sewage or fecal waste and drinking water. As the saying goes, "Boil it, cook it, peel it or forget it!"

## *VACCINATION*

The vaccine against cholera is not highly effective. Vaccination requires one shot and provides a limited (50%) protection level for only 6 months. A new, more effective vaccine (oral and injectable) is being commercialized. Meanwhile, travelers must insist on hygiene and water disinfection. Check with your medical adviser before leaving home about this vaccination.

# Diphtheria


Although diphtheria is historically a children's disease, this severe bacterial infection can occur in adults. Transmitted through direct inter-human contact (mainly by saliva), diphtheria provokes fever and a whitish membrane that adheres to the tonsils and throat. Its toxin can be fatal, and treatment requires a specific diphtheria antitoxin.

## *VACCINATION*

This once fatal disease is easily prevented by a mandatory vaccination performed during childhood, usually at the same time as the tetanus and polio shots (see "Vaccinations, Travel and Children"). It requires two shots (three for children) at 1 month intervals, with a booster 1 year later and then every 10 years. Most adults received their last booster shot for diphtheria when they were adolescents and are no longer actively protected against the disease. The vaccination protects for a maximum of 10 years.

Diphtheria is reappearing in epidemic proportions in CIS countries (ex-USSR) and in Eastern Europe. Fifty thousand cases were reported in 1995 in the CIS. Until further notice, a diphtheria vaccination is highly recommended for everyone traveling to CIS countries and Eastern Europe.

# The flu (Influenza)


The flu is an important cause of absenteeism around the world. It is rarely fatal except in certain circumstances (severe diabetes, cardiac or pulmonary disease).

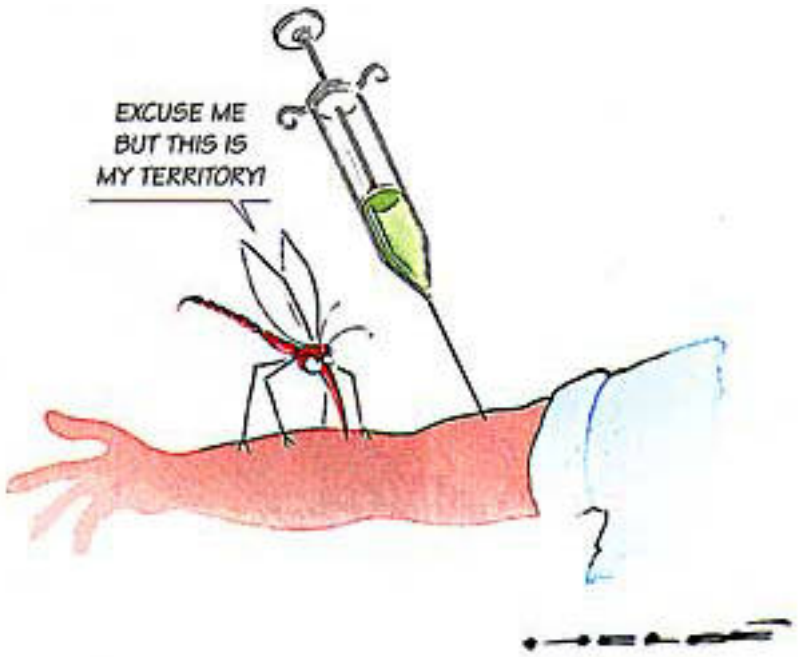
This viral disease is easily transmitted by coughing and sneezing. It lasts about 1 week, but is responsible for an important degree of post-flu fatigue.

## *VACCINATION*

One shot provides protection against the flu for 6 months. The flu virus mutates or changes its molecular structure regularly. Therefore, the vaccine must be renewed each year. It is a worthwhile precaution for the busy, always-on-the-run, modern employee. Check with your company's medical adviser.

The flu shot is rarely administered to children except in special cases. In the future, the flu shot may totally disappear and be replaced by a protective nasal spray vaccine.

# Tick-Borne encephalitis




Ticks are blood sucking insects that attach themselves to warm blooded vertebrates. They are found in forests, woods, parks and any place where there is heavy vegetation and undergrowth. The two most common tick borne diseases are Lyme disease (caused by bacteria and found mainly in North America and Europe), for which a preventive vaccination should be commercialized soon, and tick borne encephalitis, for which there already is a preventive vaccination.

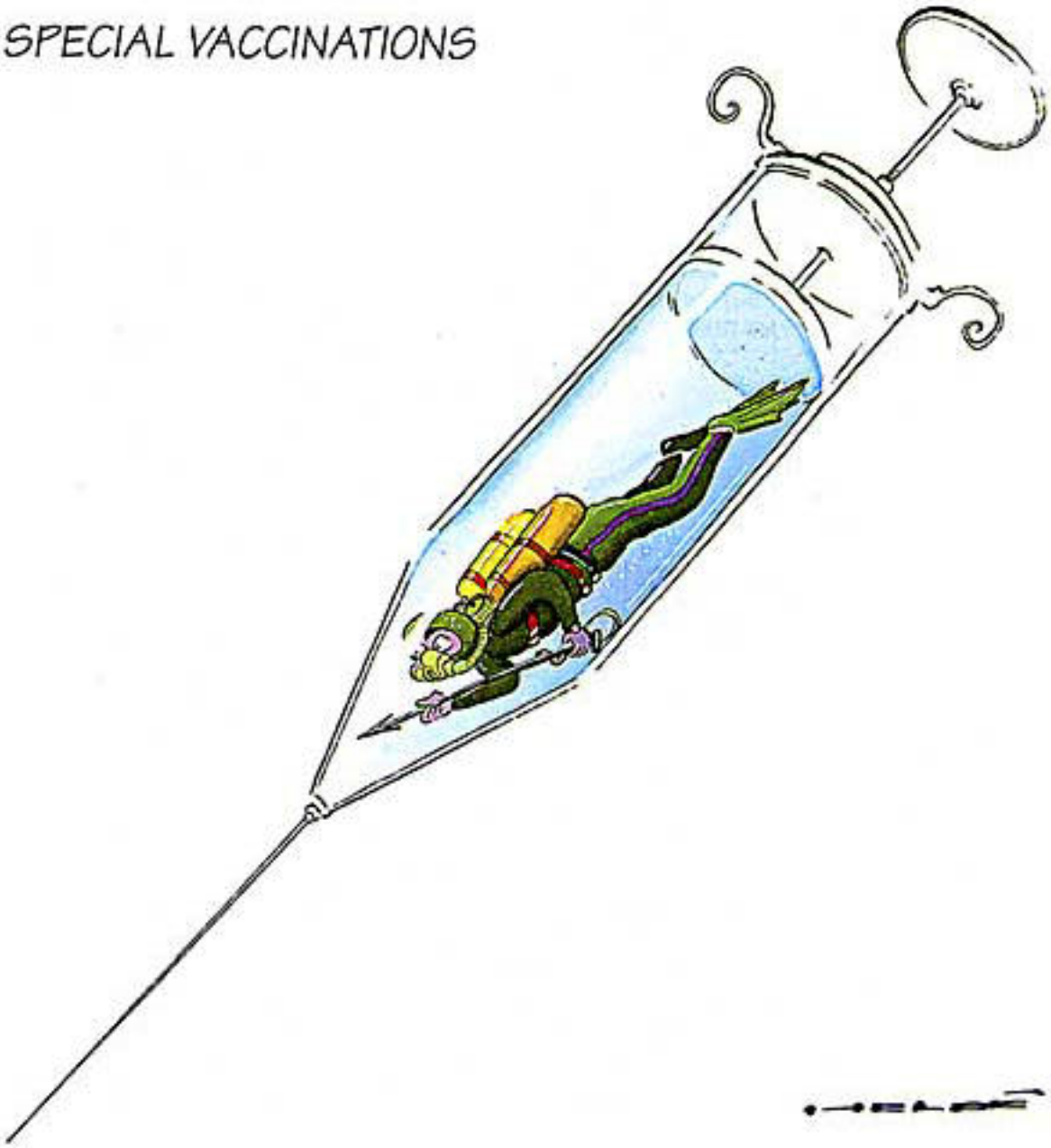
Tick-borne encephalitis is a viral disease that occurs mainly in Eastern and Central Europe (extremely common in Austria), as well as certain parts of Scandinavia, CIS and Asia. Although the disease is rarely fatal, it can provoke severe damage to the brain and nervous system. The disease is most often contracted from spring to fall.

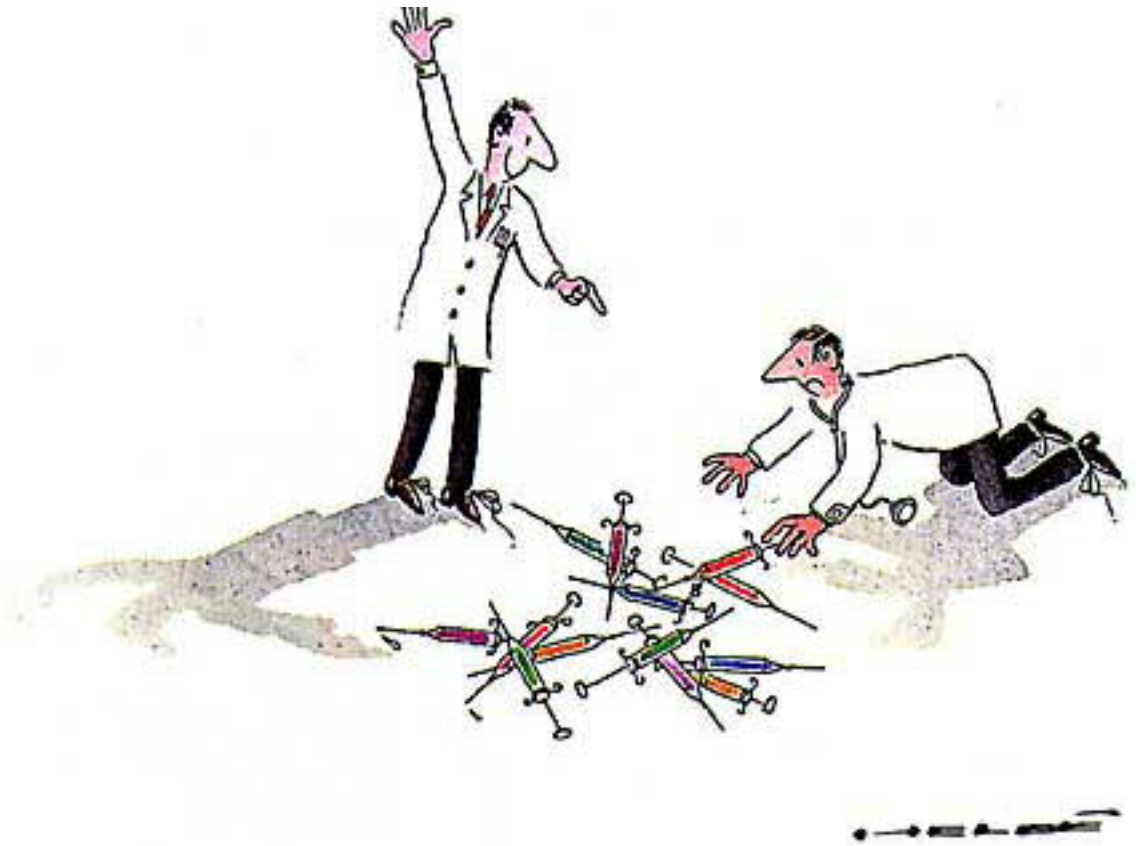
Prevention is based on insect bite protection (wearing protective clothing, repellents, boots or hiking shoes, examining exposed areas of the body and promptly removing any ticks that may be found), as well as the effective vaccination.

## *VACCINATION*

Since 1976 a protective vaccine has existed against tick borne encephalitis. This vaccine (Ticovac® or FSME Immun®) requires two shots at 4 to 8 week intervals with a booster 1 year later and every 3 years thereafter. This vaccination should not be administered to children under 1 year old.

SPECIAL VACCINATIONS





You will probably never need the following vaccinations, which are for specific situations and particular geographic locations. This list is just for your information.

- **Leptospirosis** occurs in water contaminated by rodent excrement. It occurs in the rice paddies of Southeast Asia, Indonesia and certain Pacific Islands.
- **Pneumococcus** is responsible for severe pneumonia, particularly in elderly individuals, and those in fragile health (kidney or respiratory failure).
- **Bubonic plague**
- **Rickettsies**

# Vaccinations, Travel and Children

Children do not have natural immunity against disease. It is important for them to be protected correctly by vaccinations at an early age when in their home country, and even more important if they are traveling or living abroad.

## *All children must have the following:*

- **Tetanus, polio, diphtheria and whooping cough (pertussis)**

The vaccine for these four diseases is combined in one injection. The recommended schedule for this shot is:
- one injection per month for 3 months, starting at 2 or 3 months of age,
- one booster shot 1 year later and then every 5 years.

## *Highly recommended for children:*

- **MMR = mumps, measles and rubella (German measles)**

The vaccine for these three diseases is combined in one injection that should be administered at 12 to 15 months of age with a booster at 11 years of age.

- **Haemophilus influenza (HIB)**

This vaccine is recommended for very young children. The disease can provoke fatal cases of meningitis (completely different from meningitis A, B and C). The vaccination can be combined in one injection with tetanus, polio, diphtheria and whooping cough.

- **Hepatitis B**

**Note:**

- Medical advice should be requested before vaccinating children under 12 months old for yellow fever, typhoid and meningitis A and C. (These injections are not always well tolerated or effective before this age.)

- All other vaccinations can be performed on children, even under 12 months of age, without any problems.


PLEASE, MRS ROBERTS, DO NOT SIT THERE!

# Vaccinations, Travel and Pregnancy

Certain vaccinations should be avoided during pregnancy because of the risk of provoking fetal malformation.

**During pregnancy the following vaccinations should be avoided:**

- oral polio vaccination (Sabin). The injectable vaccination (Salk) can be performed during pregnancy
- mumps, measles, rubella (German measles) and chicken pox
- tuberculosis.

Virtually all other vaccinations can be administered to pregnant women without any problems.

**During pregnancy but only in cases of absolute necessity (for example, travel to a high-risk area such as Africa for yellow fever, Far East for Japanese encephalitis) the following vaccinations can be administered with only a minimal fetal risk:**

- rabies
- yellow fever (if possible avoid vaccination during the first 3 months of pregnancy)
- Japanese encephalitis (if possible avoid vaccination during the first 6 months of pregnancy)
- typhoid
- hepatitis A

Ideally, these vaccinations should be administered as necessary before or after pregnancy.

If necessary, vaccinations can be performed during breast feeding without risk to the mother or baby.

# When to avoid vaccinations

**In certain situations when a person must temporarily delay or definitely refrain from receiving a vaccination, travel to a high-risk area should be postponed.**

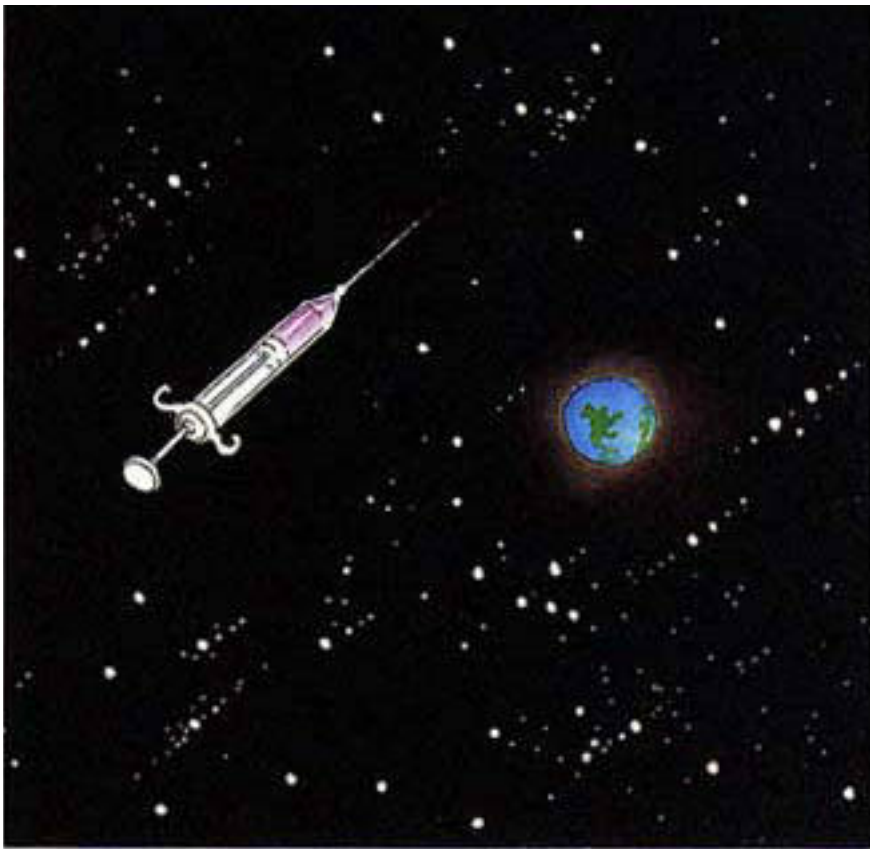
If a vaccination cannot be performed but a long trip is planned to a high risk area, it may be preferable to delay or cancel the trip rather than risk catching a serious or fatal disease: yellow fever, meningitis, etc.

## *Consult a doctor*

The following is a nonexhaustive list of examples for which a vaccination may have to be temporarily delayed or completely abandoned:

- patients suffering or recuperating from an acute disease
- patients with fever or acute infectious diseases
- patients with severe skin infections and eczema (this applies mainly to the BCG vaccine against tuberculosis)
- pregnant women
- patients suffering from an immune deficiency that occurs with certain diseases, such as leukemia, cancer, lymphoma and AIDS
- patients undergoing certain medical treatments such as high doses of cortisone, chemotherapy, other immunosuppressive drugs and cobalt therapy
- patients with known allergies to a specific vaccine.

# Vaccinations of the future



Scientists are working on new vaccinations to combat old problems. Some of these vaccinations are almost ready for commercialization, whereas others are still in the experimental stage.

Some of the vaccinations researchers are working on are for:

- AIDS
- Bilharziasis
- Cancer
- Congo crimean fever
- Dengue fever
- Hanta virus
- Hepatitis C
- Herpes
- Lassa fever
- Leishmaniasis
- Leprosy
- Lyme disease
- Malaria
- Meningitis B
- Rift Valley fever
- Rotavirus infections
- Syphilis
- Toxoplasmosis
- Traveler's diarrhea

# Conclusions


Today, vaccinations are taken for granted, and their importance has become underestimated.

However, it should not be forgotten that vaccinations are the major factor in completely eliminating certain fatal diseases around the world and reducing the incidence of others.

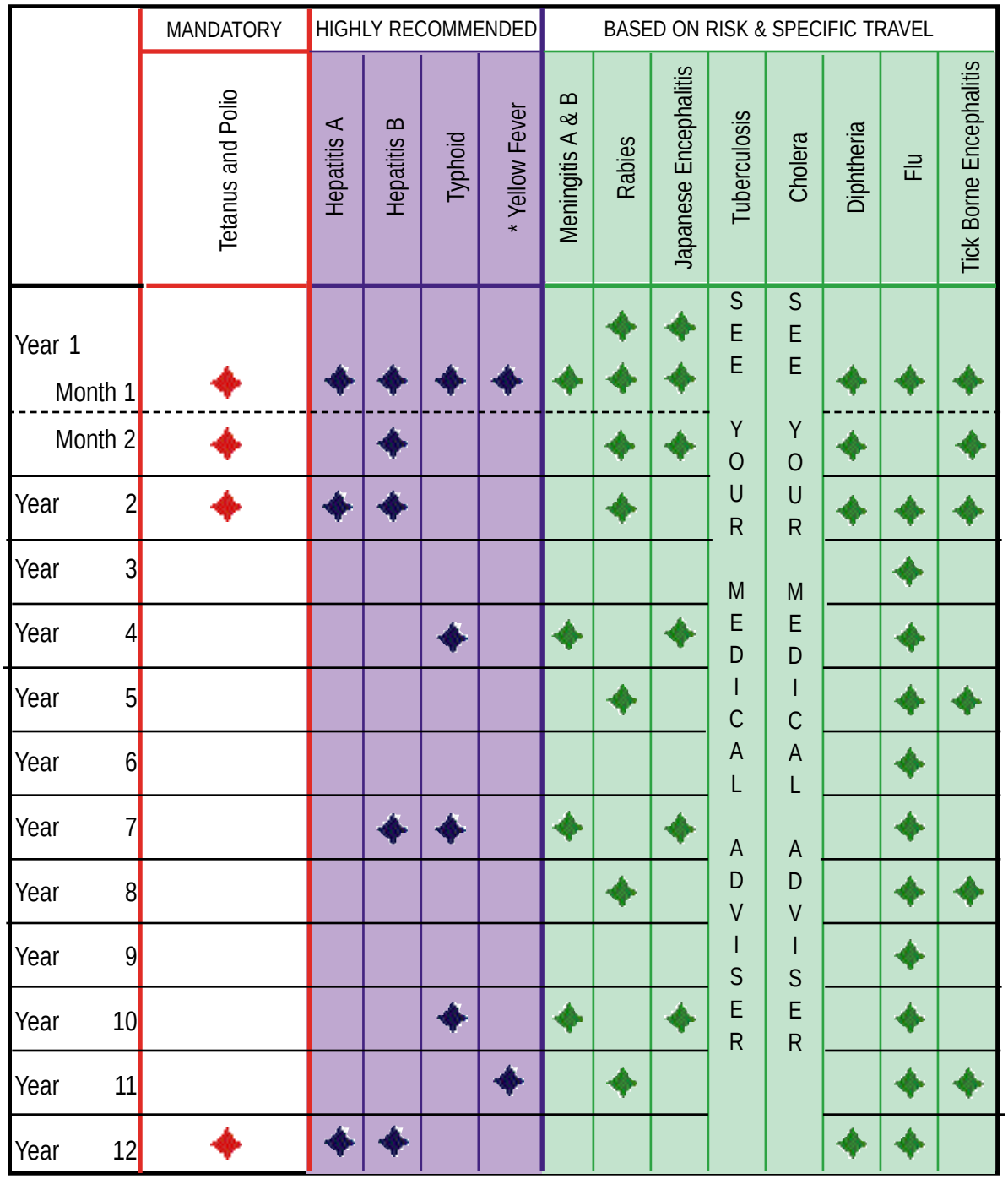
People in the oilfield industry travel and work in many parts of the globe. They live under varied climates and are exposed to health risks that make them particularly vulnerable to many types of illnesses.

## *VACCINATIONS MUST NOT BE FORGOTTEN!*

***It is essential that everyone***

- *have a tetanus and polio vaccination*
- *have the correct vaccinations performed depending on age, travel and eventual risk*
- *have booster shots kept up to date*
- *have all shots recorded on the WHO International Vaccination Certificate*
- *have vaccinations performed in their home country early enough to complete the series of shots required before travel is initiated*
- *avoid vaccinations in foreign countries, unless received in company designated or company recommended medical centers.*

# Recommended vaccination calendar for adults




*: Mandatory for many parts of Africa and South America

Health- May 1997

# Answers to frequently asked question

**1. How long can a vaccine be removed from the refrigerator before losing its effectiveness?**
Vaccines should be stored in a refrigerator at between +2° and +8°C (+35° and +40° F). A vaccine can be removed from the cold and maintained at room temperature for up to 48 hours without losing its effectiveness. If returned to the refrigerator, it can be conserved for a few more weeks.

**2. Is it necessary to test a person's immunity (for tetanus, hepatitis B, etc.) before getting vaccinated?**
Your doctor will advise if this is necessary. From a public health point of view, there is no reason to check your immunity before getting vaccinated. Besides, it is a costly and time consuming procedure. The vaccination is usually required anyway.

**3. If I do not remember when I was last vaccinated, is there any danger in getting another shot?**
No, there is no such thing as too much protection, and so there is no danger in getting an extra shot.

**4. If I have missed the scheduled date of my booster shot, do I have to redo the entire series?**
No, you can simply get the booster shot that you missed. Your doctor may recommend another booster shot 1 month later to account for the unprotected interval.

**5. Is there any danger in getting more than one vaccination on the same day?**
No, there is no problem in receiving two or three different shots against different diseases, in both arms, on the same day. Some injections already combine protection against three or four diseases in the same dose (tetanus, polio and diphtheria; rubella, mumps and measles; etc.). However, there is a limit to the number of vaccinations that can safely be performed in one day. Check with your medical adviser.

**6. Where on the body should vaccinations be injected?**
Vaccinations should ideally be administered in the deltoid region (the upper and outer part of the arm). Avoid the buttocks.

**7. What materials are necessary to be vaccinated?**
A vaccination is an easy medical procedure that requires the vaccine in a sterile, disposable syringe; a sterile, disposable needle; disinfectant (alcohol, Betadine®, etc.) on a cotton ball or gauze; and a bandage or small dressing to protect the skin from infection.


VACCINATIONS UP TO DATE?
GREAT! HAVE A GOOD TRIP...

The recommendations and practices described in this brochure should be considered only as valuable advice. They cannot replace a personalized and adapted consultation by a medical professional. Therefore, the author and the participating companies disclaim all and any liabilities resulting from the implementation of the health prevention recommendations and practices described in this brochure, including but not limited to personal injury or illness.

The following oilfield companies actively supported this vaccination campaign:

CHEVRON
EXXON/ESSO
HOCOL
LASMO
OXY
PETRONAS
REPSOL
RGIT LIMITED
SHELL INTERNATIONAL
TEXACO
TOTAL

This brochure was produced by Schlumberger Limited.

Schlumberger

Dr. A. Barbey
50, avenue Jean Jaurès
92120 Montrouge FRANCE
barbey@montrouge.sl.slb.com

**Reference Schlumberger M-090314**