Vaccines for International Travelers
—Vaccinations, Destinations, Clinics for Vaccinations—

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Abstract: The types, frequency and methods of vaccination are occasionally different in different countries. The World Health Organization (WHO) promotes the Expanded Program of Immunization (EPI), which recommends that children receive the poliomyelitis vaccine, BCG, diphtheria, pertussis and tetanus (DPT) vaccine and the measles vaccine. As a rule, children who go abroad with their parents should receive these six vaccines in advance of travel or in the destination country. Unvaccinated adult international travelers are also advised to receive essential vaccinations in advance. Thereafter, vaccinations against diseases that are known to be prevalent in the destination country, and against the diseases that are known to infect visitors are suggested, and appropriate vaccinations selected. Needless to say, the types and priority of vaccines to be administered will depend on the traveler's intended life style during his/her stay and the length of the trip. More expert advice on international travel/vaccination is being sought recently. The author hopes that this paper will serve as a useful resource for the better understanding of vaccinations.

Key words: Vaccine; International travel; Traveler’s vaccine

Introduction
Physicians are expected to play an important role in providing international travelers with appropriate medical advice so that they can be protected from being carelessly exposed to generally preventable infection. The importance of providing expert advice on the prevention of infection by vaccination has been increasing.

Each country requires specific types, frequency and methods of vaccination according to its health care system. World authorities including WHO are promoting the Expanded Program of Immunization (EPI) which recommends children to receive vaccination against the following six diseases: Poliomyelitis, BCG, diphtheria, pertussis and tetanus (DPT), and increasing.
measles.

If parents take their children abroad, such children should receive the above six vaccines in advance or in the destination country. Unvaccinated adult travelers are also recommended to receive essential vaccines ahead of time. The diseases which appear to be prevalent in the destination country and those which appear to infect visitors should also be considered and appropriate vaccinations selected for the traveler.

Basic Rules of Vaccination for Travelers

1. Planning a flexible schedule of vaccination

   If a traveler requires several vaccinations within a certain period of time, he/she is recommended to plan a flexible schedule of vaccinations. Generally, two or three months are necessary and if possible, six months are recommended for these vaccinations before departure.

2. Avoid receiving vaccination immediately prior to departure

   The possibility that expected adverse reactions (e.g. fever and rash, which may manifest 10 days after vaccination with live vaccines) and unexpected serious adverse reactions may develop immediately after arrival or during the sojourn in the foreign country should be considered. In order to prevent the occurrence of these events, which may induce anxiety, vaccination immediately prior to departure should be avoided. Travelers are advised not to receive live vaccines within two to three weeks before departure and inactivated vaccines within three to four days before departure.

3. Simultaneous vaccinations and intervals for vaccinations

   With the exception of cholera and yellow fever vaccines, many immunobiologics can be given simultaneously (on the same day). The physician should explain the following to the individual who requires vaccination or his/her guardian to obtain their consent: The simultaneous administration of vaccines is mentioned as an approved technique in the Japanese Guidelines of Preventive Vaccinations and has been generally regarded as a medically effective method. The increased incidence of adverse reactions and the diminished immune response to some vaccines following simultaneous vaccination are not expected.

4. Priority of vaccinations

   As in the case of the vaccine against yellow fever, if the vaccination against a certain disease is required according to the sanitary conditions of the destination country, a traveler should receive the vaccination (a traveler is obliged to undergo the vaccination). For children, top priority should be given to the administration of the above-mentioned six vaccinations (EPI vaccines). Unvaccinated adult travelers are also recommended to receive these essential vaccines in advance, except BCG.

   The diseases which appear to be prevalent in the destination country and those which appear to infect visitors should also be considered and appropriate vaccinations selected for the traveler. Needless to say, the types and priority of vaccines to be administered will depend on the traveler’s life style during his/her stay and the length of his/her stay.

   It is not always necessary for travelers to receive multiple vaccines within a short period of time if the length of their stay in the destination country is approximately one to two weeks. However, if travelers are accompanied by children, such children are advised to at least receive routine vaccinations in Japan in advance. Travel agencies are also responsible for recommending travelers to receive routine vaccinations. Parents should be aware that taking unvaccinated children to a foreign country because of insufficient preparation may expose them to infectious diseases.
Quality of Vaccines Administered in Foreign Countries

Travelers occasionally receive vaccinations while staying in a foreign country. Although the vaccines provided in developed countries are of high quality, the pharmaceutical manufacturers in developing countries may produce vaccines which rarely meet WHO quality specifications. Therefore travelers are generally recommended to select clinics which frequently provide vaccination to foreigners.

In view of the fact that vaccines are preserved in refrigerators, power failure and voltage related problems may cause the quality of vaccines to deteriorate. It is necessary to consider storage conditions in selecting reliable clinics in certain regions. Disposable syringes and needles are available in most regions although the condition of these devices should be confirmed in certain regions in advance.

Types of Travel and Recommended Vaccinations

Children are advised to receive routine vaccinations according to their age. Unvaccinated adult travelers are also recommended to receive essential vaccines in advance. The types of vaccines to be administered to travelers according to the purpose of travel are as listed below.

1. Short-term business travel
   If an individual is planning to stay in a developed country, vaccination is not generally required. If an individual is planning to stay in countries other than Europe or North America, the administration of hepatitis A vaccine and oral typhoid vaccine, if available, is recommended. If an individual is planning to stay in Africa or South America, he/she requires vaccination for yellow fever.

2. General group sightseeing tours
   Specific preventive vaccination is unnecessary although appropriate hygiene should be practiced by paying special attention to meals, drinking water, and hand washing. If an individual is planning to stay in Africa or South America, he/she requires vaccination for yellow fever.

3. General individual tours
   Generally, specific preventive vaccination is unnecessary. However, young travelers who economize on traveling expenses by staying in unsanitary hotels and eating food at unhygienic restaurants should exercise sufficient care because the contaminated environment may cause contagious diseases. In addition to the routine vaccinations to be indicated for business travelers, vaccinations for hepatitis B and rabies should occasionally be considered.

4. Adventure tours
   Adventure tours include visits to places which lack medical care facilities. Therefore travelers should acquire knowledge of primary care to cope with diseases, obtain information on infections prevailing in the destination country, and receive routine vaccinations. Furthermore, they are expected to receive as many types of preventive vaccinations as possible, such as those against tetanus, Japanese encephalitis, hepatitis A, hepatitis B, rabies, plague, typhoid, meningococcal meningitis, and tick-borne encephalitis depending on the conditions of prevalence in the destination country.

5. Volunteer activities, etc. in developing countries
   As in the case of adventure tourists, volunteers should be careful about the diseases prevailing in the destination country they plan to visit.

6. Long stay
   If an individual is planning to stay in a developed country for a long period of time, he/she will need to receive the vaccinations which are
routinely required in Japan. Special attention, however, should be directed to country-based differences in routine vaccinations. Therefore travelers who are planning to stay in a foreign country for a long period of time should receive the vaccinations that are required in that country. In this case, as mentioned previously, the quality of vaccines and methods of vaccinations should be confirmed in advance.

**Types of Vaccinations Recommended According to the Destination Country**

Recommended immunizing agents indicated for adults and infants according to the destination country are summarized in Table 1 (adults) and Table 2 (infants). Those listed in the tables should be regarded as standard immunobiologics with the prerequisite that routine vac-
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Table 3 Information on Vaccinations for International Travelers

- Books and Publications
  1. Conditions of Vaccinations for Children-International Conditions
     Compiled under the supervision of Hirayama, M., Okabe, N. and Fukushima, S.
     Technical adviser: Nakamura, A.
     Edit. Okabe, N.
  3. Information on Foreign Health Care
     The Ministry of Health and Welfare/Narita Airport Quarantine Station (2000)
     (in Japanese)
  4. Vaccinations for Parents and Their Children Traveling Overseas
     Edit. Nakamura, Y., Okabe N, and Onozaki, I.

- Internet Website
  1. Child Care Information
     http://www.mcfh.or.jp/
     Association of Maternal and Child Healthcare
  2. JICA-Information on Visiting Foreign Countries
     http://www.jica.go.jp/
     Japan International Cooperation Agency
  3. Health Management Center for Individuals Working Overseas-Local Information
     for Individuals Working Overseas
     http://www.johac.rofuku.go.jp/
     Labor and Welfare Organization

- Telephone Service
  1. Health Management Center for Individuals Working Overseas
     (Labor and Welfare Organization)
     Information is available to individuals.
     Phone: 045-474-6001
  2. Medical Foundation for Japanese Staying Abroad
     Information is available to corporations.
     Phone: 03-3593-1001
  3. Division of Quarantine, Narita Airport Quarantine Station
     Information is available to individuals.
     Phone: 0476-34-2310

Clinics for Vaccinations or Centers Which Provide Information on Vaccinations

Although there are a number of clinics that provide vaccination services in Japan, some clinics do not offer these services. Preventive vaccinations for international travelers differ from routine vaccinations and the clinics that provide vaccination services are not designated according to their scale. Considering the difficulty of finding appropriate clinics, the author recommends those who are planning to travel overseas to make inquiries at the centers listed.
in Table 3 and to obtain necessary information by accessing relevant websites and reading reference materials. Furthermore, the author gives them the following advice.

1. Family doctors
A sking for the frank opinion of the family doctor is one of the best ways to obtain necessary information. Family doctors may administer vaccines at their clinics or may suggest appropriate medical care facilities.

2. Local public health centers, ward offices, city offices, etc.
Although local public health centers were in charge of preventive vaccinations, recently it is more common for the public health and welfare divisions of local administrative bodies to handle the affairs related to vaccinations. Local administrative bodies do not usually provide clinical vaccination services but an increasing number of divisions of local administrative bodies offer appropriate advice on vaccination including how to receive vaccinations, the names of medical care facilities providing vaccination services, and where to go to collect necessary information.

3. Local medical associations
The members of local medical associations may offer appropriate advice on vaccinations and suggest reliable clinics that provide vaccination services. In some regions, medical associations have established vaccination centers in cooperation with clinics.

4. Pediatric departments at general hospitals
Generally, pediatric departments are responsible for vaccinations at general hospitals. It is necessary to inquire about whether they accept outpatients requiring vaccinations and whether they administer vaccinations to international travelers.

5. Quarantine stations
Currently, quarantine stations provide special vaccinations including vaccination for yellow fever, and such facilities accepting inquiries from international travelers are increasing. Quarantine stations are not established in all the prefectures of Japan, therefore inquiring about vaccinations at the nearest station is recommended as one of the methods to collect necessary information.

6. Vaccination centers
Recently, the Ministry of Health and Welfare promotes the designation of one medical facility per prefecture to act as a vaccination center. Such medical facilities may provide information on vaccinations for international travelers. Therefore inquiring at the division in charge (division of public health, welfare or infectious diseases) in each prefecture is recommended.

Conclusion
The author has summarized the essential information on vaccines for international travelers (traveller’s vaccines) in this paper. The basic rules of vaccinations for international travelers, the quality of vaccines provided at clinics in foreign countries, the types of vaccinations recommended according to the purpose of international travel, the types of vaccinations recommended according to the destinations (Tables 1, 2) and materials, websites and centers which provide relevant information (Table 3) are also explained. Mention is also made of the clinics and facilities offering advice to the general public who have questions about vaccinations. More expert advice on vaccination is being sought in recent years, in line with the increase in the number of international travelers. The author hopes that this paper will serve as a useful material for understanding vaccinations.

REFERENCES
1) Kobayakawa, T., Okabe, N. et al.: Advice on Vaccinations for International Travelers. Re-