



International
Medical Clinic

International Doctors
Caring for You



CHILD & ADOLESCENT HEALTH GUIDE

**Welcome to
International Medical Clinic**

International Medical Clinic (IMC) specializes in family, paediatric and travel medicine. We have been providing medical care in Singapore since 1999 and are a trusted medical provider for the international community.

We are dedicated to the highest standards of patient care and understand how to support you and your family's needs. Our doctors are experienced general practitioners and specialist paediatricians and are able to consult in a broad range of medical issues. Our quality healthcare extends beyond the care offered within our clinics, to the selection of specialists and other medical service providers which we recommend, as and when needed.

This complimentary guide is provided for information only, and is not intended to replace professional medical advice. Please consult your doctor or obtain other information as necessary.

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Viral Infections

The most common infections seen in children is upper respiratory tract infections caused by viruses. Long periods spent in an enclosed air-conditioned environment and exposure to large number of children in school can cause more frequent episodes of the common cold.

Skin Infections

Cuts and scratches are very liable to become infected in hot and humid climates. It is wise to clean these carefully, apply a disinfectant such as Betadine and keep them covered.

Bacterial infections: School age children may develop impetigo, a bacterial infection of the skin. This is extremely contagious and should be treated with antibiotics given either by mouth or applied as an ointment directly to the skin. Until lesions clear, infected children should not attend school.

Viral infections: Viral warts may occur anywhere on the body. Those on the feet are called plantar warts and can be painful to walk on. Warts can be treated with over the counter medications. More persistent ones may need cryotherapy (using liquid nitrogen to freeze the warts) by a doctor. Warts can be prevented by avoiding going about in bare feet on wet floors in public areas (locker rooms and swimming pools).

Molluscum contagiosum is another common benign viral skin infection. This infection usually affects young children and is spread through direct contact. The typical lesion appears as a small white papule with a central crater and can range in number from one to hundreds. The infection usually resolves spontaneously without any residual effects, over several months.

Fungal infections: These are usually expanding areas of redness and scaliness that may be itchy. Treatment is with antifungal creams, most of which can be purchased without a prescription, for at least 2 weeks. Keeping the affected area dry and exposed to air are important for both healing and prevention.

Hand Foot & Mouth Disease

A very common infection seen in the young children, hand, foot and mouth disease (HFMD) is usually a mild illness with resolution seen within a week. Typically seen are ulcers in the mouth and small blister-like rashes on the palms, soles and bottom.

Feeding can be painful and in the young child careful attention to hydration is needed. Avoiding close contact with other young children and careful hand washing is important to prevent spread. In Singapore advise is commonly given to avoid daycare and public places for 10 days after the onset, and it is advised to refrain from swimming for 6 weeks as the virus can live longer on wet surfaces.

Roseola

A common acute illness in infants, roseola presents with high fever for 3 to 6 days followed by a rash that appears as the fever is resolving. The rash starts on the trunk and spreads to the limbs and face. Fever control is usually the only treatment required.

Bacterial Infections

Secondary bacterial infections such as middle ear infections, tonsillitis and pneumonia are less common, and are usually characterised by sustained high fever and pain. These would require antibiotic treatment, hydration and fever control.

Swimmer's / Tropical Ear

Year-round swimming in a humid environment delivers the ideal condition for the development of otitis externa, or “swimmer’s ear”. This is an infection of the ear canal caused by bacteria or fungi, and is usually treated with ear drops. Preventive measures include using ear plugs when swimming.

Conjunctivitis

Conjunctivitis is another common infection in Singapore. This is an inflammation of the conjunctiva lining of the eyes, characterised by red eyes and a discharge. This is commonly viral in origin. Avoid swimming until the infection is fully resolved. Good hygiene practices (e.g. hand washing) should be adopted to prevent spread to other family members.

Head Lice

Many children, particularly those of school age, may develop head lice infestations. Children usually get infested with lice through direct head-to-head contact, though lice can also spread via hats and combs. It is often treated with malathion application left on the hair for at least 6 hours, with a repeat treatment after 2 weeks. All children in the family should be treated.

Diarrhoea / Gastroenteritis

Gastroenteritis (GE) is a common illness in childhood. In most cases, this is due to infection with rotavirus. An oral vaccine is available for rotavirus infection which can be given from 6 weeks if age. Rotavirus is spread from person to person and initially causes fever and vomiting, followed by 4 to 5 days of watery diarrhoea. The only treatment usually required is oral rehydration with water or other fluids.

Specific electrolyte solutions such as Hydralyte may also be used. Flat soft drinks are generally not recommended. Breastfed infants can continue to be fed from the breast. Rotavirus infection in babies can be very severe and the risk of dehydration is higher.

In some cases diarrhoea may persist longer than 5 days. This may be due to a temporary difficulty in absorbing lactose from milk resulting from the infection, and can be managed by substituting with soy milk or low-lactose milk in place of regular milk or formula. Alternatively, persistent diarrhoea may occur due to bacterial or parasitic bowel infections, which may require specific treatment. Chronic diarrhoea of more than 2 weeks duration, especially if with a travel history, requires investigation.

Mosquito Bites / Insect Protection

Mosquito bites are a frequent occurrence in Singapore. Children, particularly infants, are prone to develop allergic reactions to mosquito bites and may develop large blisters or lumps. Anti-itch medications like hydrocortisone cream and calamine lotion can help relieve the itching. If the skin is broken from scratching, it can become infected and antibiotic treatment may be needed.

It is important to clear puddles of water at home e.g. potted plants, to prevent breeding of mosquitoes.

It is best to stay indoors when mosquitoes are most likely to bite which is at dusk and dawn. Insect repellents can be used when children are going to spend a lot of time outdoors. Insect repellent use should be avoided in infants under the age of two months. Do not use insect repellents with more than a 30 per cent concentration of DEET on children. Generally, the higher the concentration, the longer the repellent is effective for.

Sun Protection

Sun protection is very important in the tropics, especially in young children who burn more easily. Many studies have suggested that childhood sun exposure is a significant risk for later development of skin cancers and cataracts.

It is strongly advised that infants younger than 6 months be always shielded from any excess sun with hats, clothing, umbrellas and shade. Older children should apply sunscreens with a sun protection factor of 30 or greater, 30 minutes before exposure. Children with lighter complexions would do better with an SPF of 50. Sun protection should be reapplied at regular intervals, especially during water activities.

It is best to keep children indoors during the midday sun, from 11.00am till 3.00pm.

Asthma

Changing environments can result in symptoms of asthma becoming worse or occurring for the first time. Asthma in children usually has an underlying genetic basis, with attacks brought on by viral infections such as colds. When exposed to a new environment, children often suffer from an increased frequency of viral infection and may have more wheezing episodes than previously. It is important that such children receive appropriate regular treatment to enable them to live normal active lives free of symptoms. Antibiotics are rarely necessary in the treatment of asthma.

Allergies

Hay fever causes nasal congestion, sneezing, and itching of the nose and eyes. Allergic rhinitis, which is a runny nose caused by an allergy, is a common symptom in Singapore. Both can have a genetic basis, and are brought on by exposure to specific allergens such as house dust mite, mould, animal hair or pollens. Testing for allergies to these materials may help to identify the responsible allergen, and treatments such as preventive nasal sprays or anti-allergy medications can help control symptoms. If your child has allergies the school should be notified in writing. Minimise exposure to allergens by washing bed linen regularly and avoid passive smoking.

Travel Health

Many children after moving to Singapore will travel on visits to surrounding Asian countries. This may expose them to other health risks which can be prevented by vaccination. Hepatitis A and typhoid are two common serious illnesses contracted from consumption of contaminated food. Hepatitis A vaccine can be administered from one year of age and typhoid from two years.

Dengue Fever

Dengue fever is another mosquito-borne infection seen in the tropics which can affect children more severely than adults.

It presents with high fever and muscle aches. Hospitalisation may be needed. Mosquito avoidance offers the best protection. There is now a dengue vaccine but it is only intended for patients who have had dengue once before.

Malaria

Not all tropical diseases are vaccine-preventable. Malaria is a significant danger in many Asian countries, although not in Singapore itself. It is a mosquito-borne infection spread by the *Aedes* mosquito which bites at dusk and dawn. Children are more likely to develop serious complications from malaria and therefore need to be vigilantly protected against this disease.

Mosquito avoidance is the best protection. Remaining indoors with screened windows or air conditioning from dusk to dawn, the use of personal insect repellents containing diethyltoluamide (DEET), light-coloured clothing covering as much of the body as possible and the use of mosquito nets will help to reduce the risk of getting bitten.

Anti-malarial medication may be used to provide further protection. In most Southeast Asian countries malarone is usually the drug of choice due to resistance to chloroquine. Malarone should be started before travel, so plan ahead with your doctor if intending to travel to malaria prone countries. We advise you to visit your doctor at least one month before travelling.

Mycoplasma

A microorganism called *Mycoplasma Pneumoniae* is sometimes responsible for atypical chest infections amongst older children in the community. It is spread through infected water droplets from coughing and sneezing, and individuals develop symptoms 2-3 weeks after exposure. Because close contact is needed for it to spread, it is not unusual to find *Mycoplasma* infections within families, with individuals developing symptoms weeks apart. Initial symptoms are described as flu-like and include: fever, persistent dry cough, tiredness and general body aches. Whilst infected

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individuals are usually not severely unwell, these symptoms can be persistent for weeks or even months.

In most cases, the diagnosis may be confirmed from the clinical history. A blood test measuring the body's antibody level against *Mycoplasma* may be offered, if appropriate. Sometimes a chest x-ray may be needed if significant pneumonia is suspected. In mild cases of *Mycoplasma*, symptoms are self-limiting and resolve spontaneously with time. Treatment is available for persistent infections and involves taking an antibiotic for up to 2 weeks.

There is no vaccine to protect against this organism but preventative measures like shielding the nose and mouth on coughing or sneezing and avoiding close contact in crowded areas when unwell can help reduce spread in the community.

Child Abuse

The KK Women's and Children's Hospital (KKH) and National University Hospital (NUH) are the designated hospitals for management of child abuse cases. All suspected child abuse cases requiring medical attention or child sexual abuse cases must be reported to the Accident and Emergency (A&E) Department of either one of the two hospitals.

KKH: 6293 4044 (100 Bukit Timah Road, Singapore 229899)

NUH: 6779 5555 (5 Lower Kent Ridge Road, Singapore 119074)

If there is any concern or suspicion of non-accidental injury or the child is making an allegation, the Child Protection and Welfare Services of the Ministry of Community Development, Youth and Sports (MCYS) (1800 777 0000) may be contacted for immediate investigation.

Sports Supplements

Numerous products claim to enhance strength or performance in sports. Some examples are caffeine, glucosamine, carnithine, anabolic steroids and androstenedione. The latter two are illegal. Most of them are classified as supplements. This means that the products' contents and the claims on the label have not been evaluated by the U.S. Food and Drug Administration, nor the Singapore Authorities (AVA and Ministry of Health) and may not have any scientific basis. Some may contain illegal additives that may cause severe and irreversible health problems including organ failure, cancers, stunting of growth and psychosis.

Only a few supplements do actually confer some benefits eg: creatinine and protein supplements, but must be taken at recommended doses. It is always safer to consult your doctor before commencing any supplements.

The intervention that carries the most impact for athletes is ensuring optimal dietary habits. Supplying adequate energy intake, carbohydrates, fat and protein in the diet, and timing these to be used efficiently by the body, will provide the most effective and safe results.

Sports / Energy Drinks

When doing intensive and prolonged exercise, your body loses a lot of water and also minerals like sodium and potassium, mostly through sweating and panting. This is especially if the activities are outdoors in Singapore's hot and humid weather. Sports drinks aim to replace these losses.

An appropriate amount of carbohydrate (5-8g/100ml) also provides additional energy before and after exercise; which helps to improve performance. You should aim to drink between 500ml to 1 litre of these drinks during the sporting event, which should provide you with 30-60g of carbohydrate an hour (read the labels on the various brands available).

However, if you are exercising to lose weight, you need to remember that these drinks contain very high concentrations of refined sugars and are not compatible with your aim. They are not necessary if your exercise is not intensive and lasts an hour or less.

Eating Disorders

It is healthy to watch your diet and to exercise. A healthy body weight is defined as having a Body Mass Index (BMI) between 18.5 to 25. The BMI is calculated by this formula: $[\text{weight (kg)} / \text{height (m)}^2]$.

Eating disorders are most often diagnosed in teenage girls who are overly concerned with their body image. Occasionally boys may also suffer from it. This may be due to stress, the need to feel “in control” or unrealistic expectations from media images. Living in Singapore, when clothes sizes all seem too small to fit the Caucasian frame, can aggravate this feeling.

The two main types of eating disorders are Anorexia Nervosa and Bulimia.

- Anorexics are obsessed with being thin. They refuse to eat and constantly worry about the calorie and fat content of their food. They continue to imagine themselves as fat even though they may be abnormally thin.
- Bulimics binge eat, and then force themselves to vomit all the food they have just eaten. Bulimics usually try to hide their bingeing and purging. They are usually close to normal weight but their weight may go up and down.

Sufferers of both types of eating disorders may take diet pills, laxatives or water-pills to try to reduce their weight. They may also over-exercise.

People with eating disorders do harmful things to their bodies to try to lose weight. Untreated, eating disorders can lead to heart, stomach, and kidney problems. They may also cause dental and hormonal problems. Eating disorders can be treated. If you suspect that your child has an eating disorder, you should consult your doctor.

Teenage Acne

Most cases of acne start in the teenage years. This is when the oil glands start to get more active and produce more sebum. Pores on the skin get plugged up with sebum and dead skin cells. This forms a whitehead. When the plug is exposed to air on the skin surface, it turns black, forming a blackhead. When the wall of the pore breaks near the skin surface, it forms a red bump called a papule. When it is infected by bacteria, it forms a pustule.

When the wall breaks deeper in the skin, it forms a nodule or cyst. These lesions cause scarring. The scars can last a very long time and may be difficult to resolve.

Some things that may make acne worse include hairsprays, oil-based makeup, menstruation, friction (from headbands, chinstraps), stress, squeezing or picking at blemishes and strong scrubbing. In Singapore, increased sweating and humidity are also contributing factors.

Acne can be treated. The aim is to avoid scarring, which can have long-term psychological effects on the teenager's self-esteem.

Over the counter treatments include benzoyl peroxide-based creams. However, if the acne is not clearing, you should see a doctor who can recommend treatments. These include antibiotics (oral, lotions or gels) which are very effective, and tretinoin (Retin-A) cream or isotretinoin tablets which can be used for very severe acne, and the contraceptive pill if appropriate.

Childhood Vaccinations / Immunisations

Immunisation against infectious diseases has been one of the most significant advances in modern times in lowering child mortality. It is most important that children in the process of moving to another country do not fall behind in their routine vaccinations. It is useful to bring your vaccination records with you when you first see a doctor in Singapore. Singapore follows the 'WHO recommended childhood vaccination programme'. The doctors at IMC can tailor the programme to your needs/ country of origin.

Vaccinations Recommended for Singapore

These are the diseases that you can be vaccinated against. A consultation with your doctor is always necessary as requirements differ between individuals.

Routine Vaccinations / Highly Recommended

- Diphtheria/Tetanus/Pertussis (Whooping cough)
- Polio
- Haemophilus influenza Type B (Hib)
- Measles, Mumps and Rubella (MMR)
- Hepatitis B
- BCG (Tuberculosis)
- Pneumococcal

Recommended Vaccinations

- Varicella (chickenpox)
- Rotavirus
- Seasonal Influenza
- Human Papilloma Virus (HPV)

Special Situations

- Meningococcal C
- Meningococcal B
- Pneumococcal 23

Are the vaccines safe?

Generally speaking, vaccines are well tolerated and safe. There is much more danger to your child from the diseases than from the vaccines. In most children, the side effects of immunisations are mild and go away in a few days.

They do in most cases involve an injection, which is not always pleasant for both child and parent. However, many combination vaccines are now available and will be used if appropriate.

How do vaccines work?

Broadly speaking, there are two different types of vaccine which work in different ways:

1. Live/Active Vaccines – these are treated versions of the virus/bacteria that render them harmless to normal individuals that induce the body's defence system to produce antibodies against the serious form of the disease when encountered later.
2. Killed/Inactive vaccines – these expose the body to “killed” parts of the virus/bacteria that cause these conditions to try to induce antibody production to stop potential infection.

Both live and killed vaccines are present in the current vaccination schedules. They are both effective in their own ways to prevent illness and are equally well tolerated. As a patient, there is no choice as this is determined by the production of the vaccine.

There are some situations where people should not receive live vaccines. This should be discussed with your doctor prior to vaccination.

What are the routine and recommended vaccines?

DTaP Vaccine (Diphtheria / Tetanus / Whooping cough)

This vaccine offers protection against tetanus, diphtheria and pertussis (whooping cough), which are all serious and life threatening conditions.

The vaccine has a much lower incidence of side effects than the previous DTaP vaccine ("triple antigen") and is suitable to use from birth up to age 7 years.

It is currently given in combination form with Hib/Polio vaccines.

Tetanus occurs in all countries and can be fatal. It is a bacterial infection, which enters the body through a wound.

Diphtheria is caused by bacteria which infect the throat, releasing a toxin that paralyses the heart and nervous system. Although it occurs worldwide, it is more prevalent in less developed countries.

Pertussis is a bacterial infection leading to prolonged severe coughing and is particularly dangerous to small children.

A booster dose of tetanus, diphtheria and pertussis is recommended at age 11-12 years for those who have completed the recommended childhood vaccination series. Adolescents aged 13-18 years who missed the 11-12 year booster should receive a single dose catch-up booster vaccination.

Travellers should have a booster every 10 years. The vaccine commonly has a mild local reaction that subsides in a few days.

Polio Vaccine

Poliomyelitis is a viral infection which attacks the nerve cells of the body causing paralysis. This vaccine helps prevent polio, a disease that can cause paralysis and death. The vaccine is available in two forms – Oral Polio vaccine (OPV) and Injectable Polio Vaccine (IPV). IPV is the form given in developed countries.

The OPV has been widely used around the world and is still the most commonly used vaccine in developing countries today. IPV is just as effective and can now be given as part of a combination vaccine with DTaP.

All travellers are advised to have a booster polio vaccine if they have not had one as an adult.

Hib Vaccine (Haemophilus Influenza Type B)

Haemophilus influenzae type b (Hib) vaccine protects against a serious illness that can lead to meningitis, pneumonia and a severe throat infection that can cause choking. The vaccine is safe, extremely effective, and has a very low incidence of reaction since its introduction. Severe Hib disease is now rarely seen in children. It is commonly given as a combined vaccine with DTaP and IPV, and is safely recommended for use up to age 5.

HBV Vaccine (Hepatitis B)

Hepatitis B vaccine (HBV) protects against Hepatitis B, a viral infection of the liver spread by body fluids, which can result in chronic infection, liver failure or cancer and death. It can be prevented by a course of 3 injections over 6 months given at any time after birth. The vaccine is very effective and is safe to use from birth. It is available in combination with the Hepatitis A vaccine.

Vaccination is strongly recommended for those who are long-term travellers or reside overseas.

MMR Vaccine (Measles/Mumps/Rubella)

Measles, mumps and rubella (MMR) vaccine protects against these 3 common childhood illnesses.

1. Measles is a serious, extremely contagious illness which can cause brain swelling, pneumonia and even death.
2. Mumps cause painful swelling of salivary glands and can lead to meningitis. It can also cause orchitis (inflammation of the testicles), which can result in male sterility.
3. Exposure to Rubella during pregnancy can put the developing baby at risk from blindness, mental retardation and deformity.

The MMR vaccine is a safe and effective vaccine. It may lead to a rash or fever and may cause some aching or swelling of the joints one to three weeks after vaccination. This is more likely to occur in adults than in children.

There is a combination MMR and Chicken Pox vaccine.

Varicella Vaccine (Chickenpox)

Varicella vaccine helps protect against chickenpox, a common illness that causes fever, itching, and a blister-like rash. Skin infections are common complications. Rare complications include pneumonia, swelling of the brain, and death, especially in adults and children who have a compromised immune system.

This vaccine is recommended as a 2 dose vaccine starting at 12 months of age and is safe to be administered with other vaccines. Adolescents without evidence of immunity are recommended to have 2 doses of the vaccine. If used in adults, two doses of vaccine are needed.

BCG Vaccine (Tuberculosis)

Tuberculosis is a bacterial infection primarily involving the lungs, and occasionally other organs of the body. It may be spread via droplet infection (someone coughing nearby causing the germ to enter the air we breathe), or by the ingestion of unpasteurised milk. The risk of exposure to the tuberculosis is 40 times higher in Southeast Asia than in Western countries.

Infants and young children under 6 years of age are most vulnerable to this disease, although it can be caught at any age. Vaccination with BCG is useful in reducing the risk of severe illness in young children.

TB is the commonly used vaccine to prevent a chest infection. It is generally of slow onset and has a low rate of infection. However it can have serious consequences as it can spread to other parts of the body causing serious illness and even death.

The bacterium that causes TB is becoming more resistant to antibiotic therapy and hence there is more of a trend to recommend vaccination.

Many countries have differing attitudes to BCG Vaccination; however there is agreement that young children living in a high risk area for any length of time should be offered the vaccine. This is best given at birth by single injection or if given to children over 6 months age there needs to be a mantoux skin test performed 48-72 hours prior to administration of BCG.

Pneumococcal Vaccine

Pneumococcus is a bacteria commonly carried in human airways that can cause severe illness and even death in young children. There are more than 90 different types of pneumococcus. It is the most common cause of bacterial pneumonia and meningitis in children under 5 years and a common cause of bacterial otitis media (middle ear infection). The pneumococcal vaccine acts to stimulate

immunity against the 13 most common types of pneumococcus that are responsible for more than 80% of childhood disease. This vaccine is given as an injection in 3 doses for children under 6 months and provides effective protection (>95%) against severe forms of pneumococcal disease.

The pneumococcal vaccine is a safe vaccine, with minor reactions like fever and injection site redness or swelling occurring in less than 10% of children. These reactions are short lived and are resolved with paracetamol and observation alone.

Meningococcus C Vaccine (Meningitis C)

Meningococcal infections can cause severe blood sepsis, meningitis or a combination of both in humans. It is most common in infants under 5 years of age, and in teenagers between 15 to 19 years. There are 5 groups of meningococcus that cause disease in humans; and Groups B and C are the most common types in developed countries.

Meningococcus C causes up to 40% of meningitis and can be effectively protected against with the vaccine. It is given by injection in 2 or 3 doses in children under 6 months or as a single dose in children over the age of 12 months. It does not prevent meningitis caused by other bacteria or viruses.

The vaccine can cause minor reactions like fever, irritability and injection site redness or swelling. Teenagers might report having headaches and mild loss of appetite post-vaccination. These effects are short lived.

Meningococcus B Vaccine (Meningitis B)

Meningococcal infection is a leading cause of bacterial meningitis, an infection of the lining the brain and spinal cord. Meningococcal infection can also cause a serious bacterial infection of the blood.

Bacterial meningitis can be caused by several different bacteria. In most of the world, especially in the UK, Ireland, and Australia, meningitis B is the most common cause of bacterial meningitis. Vaccines are the only way to prevent meningitis and have almost eliminated some types of meningitis. It is most common in children under 5 years of age; however there is a secondary peak in adolescence. Babies under 5 months of age are most at risk.

Meningitis B is an aggressive illness which can rapidly lead to death if not identified or treated early. Even in those that are treated early, a high number will be left with long term problems such as hearing loss, seizures, learning difficulties and if they have a bloodstream infection (sepsis) it can lead to loss of limbs.

Meningococcal Vaccine

This vaccine offers protection against infections caused by meningococcal groups A, C, W & Y. Meningococcal infections can cause severe blood sepsis, meningitis or a combination of both. Meningitis is an infection of the lining of the brain. The infection is transmitted from person to person via respiratory droplets (i.e. through coughing and sneezing).

Some countries' national immunisation schedules recommend the meningococcal vaccine to children age 11-12 years. It is also recommended to previously unvaccinated adolescents at high school entry (at approximately age 15 years) as well as to previously unvaccinated college students living in dormitories.

Rotavirus (Gastroenteritis)

Rotavirus is the most common cause of diarrhoea and dehydration in young children the world over. It is responsible for hundreds of thousands of deaths in children under 5 years every year, especially in developing countries.

Rotavirus vaccine given orally in 2 or 3 separate doses after 6 weeks of age has been shown to reduce the severity of diarrhoea and the need for hospitalisation for severe Rotavirus gastroenteritis. It can also reduce the occurrence of any form of gastroenteritis caused by Rotavirus by up to 70%.

Mild symptoms of fever, diarrhoea and vomiting can occur within 1 week of vaccination in a minority of children as a result of the live vaccine which induces immunity to protect against future severe disease.

Human Papilloma Virus (HPV) Vaccine

HPV is a common infection and usually does not cause any noticeable symptoms. It is highly contagious and many people will acquire a HPV infection within a few years of becoming sexually active.

Most people clear the HPV infection within 1-2 years through the body's natural immune response.

High risk HPV types can establish persistent infection which can then result in cervical abnormalities, which in some cases, will progress to cervical cancer.

Currently, all HPV vaccines protect against HPV types 16 and 18 which are responsible for about 70% of cervical cancers worldwide.

Other vaccines can also protect against HPV types 6 and 11, which cause 90% of genital warts, a non-threatening sexually transmitted disease. Genital warts are small flat bumps that occur on the penis or vulva and usually disappear by themselves or with anti-viral treatment. However, they can reappear at any time because the virus stays in the body.

These vaccines are given in a 3-dose schedule over a 6 month period for children over 14 years, 2-dose schedule for children under 14 years.

Routine vaccination is recommended for all females age 11-12 years; the vaccination series can be started in females and males as early as 9 years of age, and a catch-up vaccination is recommended at ages 13-26 years who have not been vaccinated previously or who have not completed the full vaccine series.

It is most effective if given prior to the commencement of sexual activity.

What are the additional vaccines recommended for travel?

Hepatitis A

Hepatitis A is a viral disease of the liver causing fever, nausea and jaundice and is the most common vaccine preventable health problem faced by travellers to less developed regions of the world. Hepatitis A can be contracted from contaminated food or water. Even those staying in “5 star” or resort accommodation may be exposed.

The Hepatitis A vaccine can be given to adults and children 1 year and older. The vaccine requires two doses 6 months apart and gives immunity for at least 50 years. The vaccine is very well tolerated. The vaccine can also now be given in a combination with the Hepatitis B vaccine.

Typhoid

Typhoid is a bacterial infection transmitted through contaminated food, water or ice, raw seafood (in particular shellfish), raw fruit and vegetables, milk and milk products. It is often acquired from food contaminated by unhygienic food handlers.

Typhoid vaccination is strongly recommended for travellers to areas where environmental sanitation is poor. The vaccine is used from age 2 onwards and is very well tolerated. The injectable form is given as a single dose vaccine which gives immunity for 2-3 years. An oral vaccine is available for 6 years and above. The vaccine should be given at least 14 days before travelling.

Japanese B Encephalitis

This is a viral infection that may cause severe brain inflammation and is transmitted by a species of mosquito which breeds in rice paddies and is common in Asia. Vaccination is recommended for long-term travellers depending upon their itinerary and time of travel, and for residents in at-risk destinations.

Depending on which brand of vaccine is used, the course consists of 2 or 3 doses over the course of a month and can be associated with mild local and/or generalised reactions.

Rabies

Rabies is a fatal infection transmitted to humans via the bite of a rabid animal. Singapore is rabies-free but rabies is present in most other countries in Asia. Pre-exposure rabies vaccine is recommended for long-term travellers and those who may be occupationally exposed. Prolonged time in the outdoors (e.g. trekking, cycling) also increases risk of exposure. Children are at higher risk of exposure. It is available in a 3 dose schedule which is given over 1 month. Seek immediate medical attention if you experience an animal bite in any country known to have rabies, even having completed the pre-exposure vaccination programme.

Yellow Fever

Yellow fever is a serious mosquito-borne viral infection which causes Haemorrhagic Fever. Vaccination against yellow fever is a compulsory requirement by the WHO for travel to many parts of Africa and South America. A vaccination certificate may be required to enter an infected country or upon leaving an infected country and entering the next country. Singapore has guidelines for entry after travelling to endemic countries.

Yellow fever vaccinations can only be obtained from registered vaccination centres or any of the IMC clinics.

The vaccine is a single dose and lasts a lifetime. It is safe to use in children over 9 months of age.

Cholera

Cholera is a serious food/water borne infectious illness which is relatively common in developing countries. The vaccine available comes in an oral form. Care with foods eaten and using a “safe” water source are the keys to preventing the illness.

How often does my child need immunisations?

Immunisations are given on a schedule that usually begins at birth. For most vaccines, one dose is not enough. Your child has to have all of the doses of vaccine to help the body develop immunity as it matures. Recommendations change from time to time, and the schedules vary from country to country. Ask your doctor if you have questions.

Should I keep a record of my child's immunisations?

Yes. Your doctor can give you a special card or booklet (called an immunisation or vaccination, record) so that you can keep a record of your child's vaccinations. Take the record with you to all of your child's visits to the doctor. Ask the doctor or nurse to help you keep the record up-to-date. You may need proof of immunisation when your child starts day care or school, or for travel.

What should I do if my child isn't feeling well and is supposed to be immunised?

Children can usually be immunised even if they are not feeling well. Most vaccines can be given if your child has a minor illness or a slight fever. Some children who have cancer or immune deficiencies should not receive live vaccines. It is important that immunisations be given on schedule. Your doctor can decide if the vaccines should be given.

Can I give some vaccines earlier than recommended?

This may be possible with some vaccines, but would need to be upon doctor's advice, and may mean extra doses.

What should I do if my child has a fever (temperature) after the vaccination?

If your child has a fever, give paracetamol (dose based on weight) 4-6 hourly. Give no more than 4 doses in 24 hours. If the fever persists, consult your doctor.

Advice to parents on reactions

Vaccine injections may occasionally result in soreness, redness, itching, swelling or burning at an injection site for 1 to 2 days. A cold, wet cloth will help to relieve this. Sometimes a small hard lump may persist for some weeks or more. This is no cause for concern.

If reactions are persistent and severe, or if you are worried about your child, contact your doctor.

OUR LOCATIONS



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