Measles Vaccine
Frequently Asked Questions

1. What is the current measles vaccination schedule?

As of August 2016, the Expanded Program on Immunizations (EPI) schedules measles vaccination at 6 months and a second vaccine at 12 months of age. The current preparation is called 'MeasBio®'. The efficacy of two doses of measles vaccine ranges from to 93-99%. In addition to routine vaccination, in South Africa, supplementary immunisation activities are conducted every 3-4 years. These are vaccination campaigns usually targeting all children under 5 years of age. The purpose of these is to immunise any children who may have missed a measles vaccine, and to increase the efficacy of vaccination.

2. Which route of administration is used?

The vaccine is usually given as a deep subcutaneous injection, but may be given intramuscularly. Infants are vaccinated in the left thigh, whilst older children and adults are vaccinated in the shoulder.

3. What is the composition of the measles vaccine?

A monovalent (single strain) live attenuated (alive, but substantially weakened measles virus) measles vaccine is used in the EPI-SA schedule. The South African National Department of Health is currently using a vaccine called Meas-Bio®. As with all vaccines, this vaccine preparation includes residual amounts of antibiotic (kanamycin and erythromycin), and also small amounts of sorbitol, lactose, porcine gelatin, cysteine, NaOH, and phenol red (0.002%) - as preservatives, stabilisers and residue from production. This vaccine does not contain any thiomersal, mercury compounds or hen's egg derivatives. A strain which is genetically identical, but which is prepared differently (without gelatin), is also available in combination with mumps and rubella as MMR vaccine. The MMR is available in the private sector.

4. What type of adverse reactions after vaccination can be expected?

Relatively common adverse reactions which after vaccination at a rate of less than 1 in 20 persons include pain at the injection site, fever between 7 and 12 days following the vaccination, morbilliform rash between 7 and 10 days following vaccination. These side effects are generally mild and are dealt with symptomatically.

Very rare but more serious adverse reactions after vaccination include encephalitis (1 in 2 million), febrile seizures (1 in 3 000), thrombocytopenia or low platelets (1 in 30 000) and anaphylaxis or severe allergic reaction (1 in 1 million). The risks of serious complications following measles infection are enormously greater than vaccine-related serious adverse reactions and include death, pneumonia with permanent lung damage, and corneal scarring. Person-to-person transmission of measles vaccine strains has never been documented.

5. What are the contra-indications for measles vaccination?

Persons who should not receive the measles vaccine are those who have had severe anaphylaxis following a measles vaccination, patients with congenital immunodeficiency disorders, leukaemia, lymphoma or serious malignant disease and persons who are receiving treatment with chemotherapy, therapeutic radiation, or high

dose corticosteroids (>20mg/day or >2mg/kg/day prednisone or equivalent). Measles vaccine should be avoided in pregnancy. However, in the 3rd and possibly the 2nd trimesters of pregnancy, the benefit of vaccination may well outweigh the risks of complications due to measles infection (high risk of severe maternal morbidity, foetal loss, prematurity, and perinatal infection). HIV-infected persons are at increased risk for serious complications and death from measles infection however, the risk is proportional to the degree of immunosuppression. HIV infected persons on anti-retroviral therapy should receive measles vaccine as the risk of complications of measles likely outweighs any potential risks from measles vaccination. The efficacy of measles vaccine may be suboptimal in persons with advanced HIV and they may not develop adequate protection post- vaccination. These persons are at risk for complications of measles infection and should receive vaccine in consultation with their health practitioners. Administration of immunoglobulin or other antibody-containing blood products may neutralize the effect of measles vaccine for 3 - 11 months. Following measles vaccination, receipt of such blood products should be delayed for at least 2 weeks, if possible. There is currently no hyper-immune globulin for measles post- exposure prophylaxis. Pooled immunoglobulin is not effective. Measles vaccination post- exposure

6. How should the vaccine be stored?

Maintaining the cold chain is very important. Lyophilized vaccine should be stored in the freezer, and reconstituted vaccine must be stored in the refrigerator at 2 - 8^{0}C and used within 6 hours.

7. Health care workers and vaccination

It is important to take responsibility for one's own health. All personnel that have contact with potentially infected patients should be vaccinated as part of the current public health response to prevent further spread of the measles infection.

8. How to deal with parents/patients concerned about vaccines and safety

All persons have a right to know the risks and benefits of any medical intervention, including vaccination. It is appropriate to engage respectfully and transparently with concerned parents and individuals. It is appropriate to provide the vaccine package insert, and other resources explaining risks and benefits. Identify the commonly occurring side effects and how these are managed. Make persons aware that severe reactions are very rare. If parents are aware of controversies regarding measles vaccine and links to autism, attention deficit hyperactivity disorder (ADHD) or Guillain-Barré syndrome, provide reassurance that these myths are not grounded in observations and have been rejected by the international scientific community.

9. Useful vaccine information websites

- The South African Vaccination and Immunization Centre (www.savic.ac.za)
- National Institute of Communicable Diseases – FAQ on Measles (at https://www.nicd.ac.za/diseases-a-z-index/measles/)
- The Vaccine Page (www.vaccines.org).
- WHO – Immunization Safety (www.who.int/immunization_safety/en/).