What should I do after the DMSA scan?

Your child will be discharged when deemed fit by the doctor.

If your child was given sedation, he or she will be monitored closely until fully awake. Once awake, a small intake of fluids will be allowed first, followed by food. Your child will be discharged when deemed fit, usually between 2 to 6 hours after the sedation.

What happens after the scan?

A follow-up appointment may be arranged for your doctor to explain the scan results to you and advise if any further action is needed.

The information provided in this publication is meant purely for educational purposes and may not be used as a substitute for medical diagnosis or treatment. You should seek the advice of your doctor or a qualified healthcare provider before starting any treatment or if you have any questions related to your health, physical fitness or medical condition.

About the Khoo Teck Puat – National University Children's Medical Institute (KTP-NUCMI)

The KTP-NUCMI is the paediatric arm of the National University Hospital and comprises the Departments of Paediatrics, Paediatric Surgery and Neonatology. We provide comprehensive and specialised medical and surgical services for newborns, children and adolescents. NUH is the only hospital in Singapore that offers paediatric kidney and liver transplant programmes. Through a generous gift from the Estate of Khoo Teck Puat, we have set up an integrated outpatient facility with medical, diagnostic and rehabilitation services.

For more information about us, visit www.nuh.com.sg/ktp-nucmi.

Contact Us

24-hour Children's Emergency
Location: NUH Main Building, Zone F, Level 1
General Enquiry: +65 6772 5000

KTP-NUCMI
Location: NUH Main Building, Zone E, Level 2
(Accessible via Kent Ridge Wing, Zone C, Level 2, Lift Lobby C)
Operating Hours: 8.30am – 5.30pm (Mon to Fri), 8.30am – 12.30pm (Sat)
General Enquiry: +65 6772 5736 Appointment Line: +65 6908 2222
Email: ktpnucmi_appt@nuhs.edu.sg

9a Viva-University Children's Cancer Centre
Location: NUH Medical Centre, Zone B, Level 9
Operating Hours: 8am – 5.30pm (Mon to Fri)
Appointment Line: +65 6772 5030 Fax: +65 6872 4314
Email: cbccappt@nuhs.edu.sg

NUH Children's Urgent Care Clinic @ Bukit Panjang
Location: Junction 10, 1 Woodlands Road, #01-22, Singapore 677899
Operating Hours: 9am – 11pm daily (including public holidays)
General Enquiry: +65 6219 1538 Email: childrenucc@nuhs.edu.sg
Website: www.nuh.com.sg/ucc

NUH Child Development Unit @ JMC
Location: Jurong Medical Centre,
60 Jurong West Central 3, Level 2, Singapore 648346
Operating Hours: 8.30am – 5.30pm (Mon to Fri)
Appointment Line: +65 6665 2530/2531 Fax: +65 6665 0158
Email: cdu@nuhs.edu.sg Website: www.nuh.com.sg/cdu

NUH Child Development Unit @ Keat Hong
Location: Keat Hong Community Club,
2 Choa Chu Kang Loop, #03-01, Singapore 689687
Operating Hours: 8.30am – 5.30pm (Mon to Fri)
Appointment Line: +65 6769 4537/4637 Fax: +65 6665 0158
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National University Hospital
Location: 5 Lower Kent Ridge Road, Singapore 119074
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Information is correct at the time of printing (February 2023) and subject to revision without prior notice.

National University Hospital

DMSA Scan

Khoo Teck Puat - National University Children's Medical Institute

What is a DMSA scan?

DMSA scan is a procedure that captures the shape and size of kidneys. DSMA stands for Dimercaptosuccinic Acid. It is a radioisotope (DMSA dye) that is injected into the body to study the function of each kidney.

DMSA images showing the uptake of the dye in a child's kidneys.

Why does my child need a DMSA scan?

If your child had an episode or repeated episodes of urinary tract infection, a DMSA scan is recommended to detect significant effects the infection may have on the kidneys.

Other reasons include the need to determine the relative excretory function of each kidney, for example in unequally-sized or duplex kidneys.

How is the DMSA scan done?

Before the scan:

A small plastic tube, also known as an intravenous (IV) cannula, will be inserted into a vein on your child's hand or foot.

The DMSA "dye" will be injected into your child's body through the IV cannula. It will take 1.5 to 4 hours for the kidneys to take up the "dye". During this period, your child may rest in the ward.

Once ready, your child will return to the Diagnostic Imaging Centre for the DMSA scan.

During the scan:

Your child will lie on the scanner with the gamma camera above him or her. He or she will have to keep their trunk very still for at least 30 minutes so that the camera can capture clear and accurate images of the kidneys. You can remain with your child during the scan and talk to him or her to allay his or her fears. He or she can move their hands or head during the scan.

If your child is unable to lie still, he or she may need to be sedated. Your child will be monitored by a medical personnel while under sedation.

The scanning process usually takes 30 minutes. It may last up to an hour if the radiologist needs to take more images after viewing the initial set.

Once the scan is over, the IV cannula will be removed.

Will this scan hurt my child?

The 'pin-pricked' sensation of the needle during IV cannula insertion may hurt a little. Once the IV cannula is in place, the rest of the procedure is painless.

The DMSA injection contains a small amount of radiation. It is equivalent to approximately 4 months of natural background radiation. The radiation of the dye is harmless and will disappear on its own soon after the scan is completed.

If sedation is required for your child, there are also risks related to potential side effects. Please approach your doctor for more information.

How do I prepare my child for the DMSA scan?

There are no eating or drinking restrictions unless sedation is required.

If sedation is required, your child cannot have any food or liquid 4 to 6 hours before the scan. However, feeding may be allowed for infants. Please check with your doctor or nurse regarding instructions related to fasting for sedation before the scan.

If you are or may be pregnant, you will not be allowed to stay with your child in the room during the scan. You may arrange for someone else to accompany your child during the scan.