

Backgrounder on Newborn Screening Ontario (NSO)

What is newborn screening?

- Newborn screening is the testing of babies shortly after birth for treatable diseases that are not usually apparent in the newborn period.
- Early detection of these diseases through newborn screening prevents serious health problems and can save lives.
- Newborn screening in Ontario is not mandatory but is considered standard of care and highly recommended for all infants.

What is NSO?

- NSO, located at the Children's Hospital of Eastern Ontario (CHEO), is the provincial program that coordinates newborn screening across Ontario.
- NSO is the most comprehensive newborn screening program in Canada and one of the most modern and advanced newborn screening laboratories in the world.
- NSO houses a world-class laboratory that performs the screening tests for all babies in Ontario. NSO is the largest and most advanced clinical Tandem Mass Spectrometry (TMS) lab and the largest volume clinical molecular DNA lab in Canada.
- NSO screens for diseases including Metabolic diseases, Endocrine diseases, Sickle Cell Disease, Cystic Fibrosis, Severe Combined Immune Deficiency and most recently, Critical Congenital Heart Disease.
- NSO strives to ensure that every newborn receives the highest quality screening and care for serious diseases and is a global leader in screening through research, development, education and innovation.
- Since NSO was established at CHEO in 2006, it has tested over 1.6 million newborns and identified about 2000 babies who have been diagnosed with diseases through newborn screening.

Screening in Ontario

- By pricking the heel, a small amount of blood is collected from all babies in Ontario shortly after birth. This blood is sent to NSO where it is tested for several serious diseases. With these diseases, early diagnosis is the key to effective treatment.
 - NSO refers babies who screen positive on their blood sample to Specialists at Newborn Screening Regional Treatment Centres in the province. These specialized centres coordinate diagnostic testing to determine if a baby is truly affected and provide treatment and management for the disease, if needed.
- Screening for Critical Congenital Heart Disease (CCHD) will begin in Ontario throughout 2017. CCHD screening is a safe test performed at the bedside (point-of-care) that can detect low oxygen levels, a common sign of CCHD. The quick and painless test is called pulse oximetry and is the first screening test that NSO will coordinate at the bedside.
 - Since screening for CCHD happens at the bedside, results are available immediately. Babies who screen positive for CCHD are examined by a physician and may have more tests, such as an ultrasound of the heart, to determine the cause for the low oxygen level in their blood. Babies diagnosed with CCHD receive specialized care and treatment with surgery or catheter intervention to help them grow and develop normally.