



[www.mi.gov/newbornscreening](http://www.mi.gov/newbornscreening)

## Michigan Resources & Support

### Children's Hospital of Michigan Metabolic Clinic

Toll-free: 1-866-44CHMMC

### Children's Special Health Care Services

Family Phone Line

Toll-free: 1-800-359-3722

### Early On<sup>®</sup> Michigan

Toll-free: 1-800-EARLY ON

[www.1800earlyon.org](http://www.1800earlyon.org)

### Michigan Genetics Connection

[www.migeneticsconnection.org](http://www.migeneticsconnection.org)

### Michigan Newborn Screening

Follow-up Coordinator

Toll-free: 1-866-673-9939

E-mail: [MDCH-newbornscreening@michigan.gov](mailto:MDCH-newbornscreening@michigan.gov)

### Michigan NBS Parent Liaison

Toll-free: 1-866-673-9939

E-mail: [NBS-parent@michigan.gov](mailto:NBS-parent@michigan.gov)

## National Resources & Support

### Family Village

[www.familyvillage.wisc.edu](http://www.familyvillage.wisc.edu)

### GeneReviews

[www.genetests.org](http://www.genetests.org)

### Genetic Alliance

[www.geneticalliance.org](http://www.geneticalliance.org)

### MSUD Family Support

[www.msud-support.org](http://www.msud-support.org)

### STAR-G Project

[www.newbornscreening.info/Parents/facts.html](http://www.newbornscreening.info/Parents/facts.html)

# What is Maple Syrup Urine Disease (MSUD)?

MSUD is an inherited disorder in which the baby is unable to use parts of protein found in food and milk. It occurs in about 1 in 235,000 Michigan newborns. Without treatment, babies with MSUD may become seriously ill and die before they are diagnosed.

## How may MSUD affect my child?

### Symptoms in the Untreated Newborn

Babies with MSUD often begin to show signs of the disorder within the first few days of life. Symptoms in the untreated newborn include:

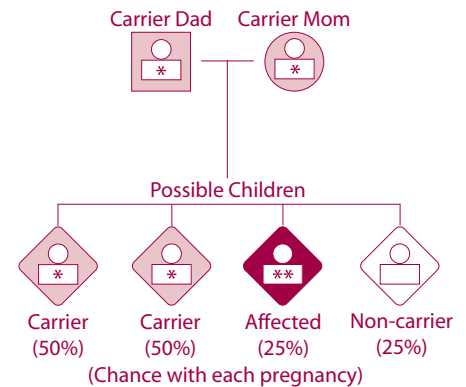
- Poor suck or poor feeding
- Vomiting
- Maple syrup odor
- Lethargy (tiredness)
- Rigid muscle tone
- Seizures
- Brain injury
- Eventual coma and death

### Developmental Delay and Mental Retardation

If a child with MSUD is not treated, life threatening metabolic crisis can occur. This may cause damage to the brain, resulting in mental retardation. Children diagnosed early in life before severe symptoms appear have a chance for normal intelligence with strict diet care.

## How does MSUD occur?

MSUD is a genetic disorder. Parents of an affected child carry a genetic trait causing MSUD. Both parents pass the trait to a child with MSUD. There is a 1 in 4 chance that each child will have MSUD when both parents carry the trait for the disorder.



## How is MSUD treated?

Newborns are placed on a special formula to restrict protein. A diet restricting protein should be continued through life and must be carefully monitored. A child with vomiting, diarrhea or decreased liquid intake must receive medical care immediately. Regular monitoring and care through the Metabolic Clinic and your pediatrician are required to ensure your child's health, growth and development.

**For more information contact the Newborn Screening Program toll-free at 1-866-673-9939 or e-mail [NBS-Parent@michigan.gov](mailto:NBS-Parent@michigan.gov)**

Supported in part by project #5 H91MC00215-03-00 as a Special Project of Regional and National Significance (SPRANS), Title V (as amended), Social Security Act, administered by the Maternal and Child Health Bureau, Health Resources and Services Administration, United States Department of Health and Human Services.