



Welcome

Thank you for visiting our clinic and taking the time to meet us. We've had the privilege of providing health care to children for generations and enjoy building strong, trusting relationships with the families we serve.

Why should I choose a pediatric clinic to care for my child?

The medical care of young people is different than that of adults. Pediatricians are Medical Doctors (MD) with an additional three or more years of specialized training in the care of babies, children, and adolescents. Pediatric Nurse Practitioners are Registered Nurses that have obtained a masters degree as well as pediatric specialty certifications. Meeting our patients at a young age allows us to form relationships which are very valuable, especially in the teen years.

How often will my child visit the clinic?

- Before your baby is born (for first time parents)
- Within 2-3 days after birth
- During the first year of life: 1 month, 2 months, 4 months, 6 months, 9 months and 12 months.
- In early childhood: 15 months, 18 months, 24 months, 30 months, 3 years, 4 years, 5 years
- In middle childhood, adolescence and early adulthood: yearly visits.

What will happen during an office visit?

At each visit, your child will be measured. Height, weight and head circumference for babies will be recorded on a growth chart. Age appropriate screenings such as health and safety, autism, mental health, cholesterol, and anemia may be offered. The pediatrician will examine your child, discuss important health issues such as sleep, nutrition, elimination, and behaviors as well as talk about developmental milestones. Immunizations are an important way to keep your child healthy. We'll explain which ones are needed at each visit. This is a great time for us to get to know your family. We are happy to guide you through any questions you may have.

What do I need to know about calling the clinic?

Our phones are answered 24 hours a day. During clinic hours, our phones are answered by our clinical assistants. During the hours we are not open, your call will go to the Children's Triage Service which is staffed by RNs. Be sure to have a pen and paper ready to write down any instructions and questions. It's easy to forget things, especially when you are worried about your child.

If you think your child has a fever, take your child's temperature before you call. Be prepared to provide information such as temperature, medical problems, medicines, immunization history and the phone number for your pharmacy. If a doctor needs to call you back, be sure you are available for the call.

Woodbury 651-738-0470
Roseville 651-645-4693

WELCOME TO THE WORLD OF PARENTING

Your baby is finally here.
Congratulations!

NEWBORNS ARE DELIGHTFUL—AND TIRING

- Newborns may sleep only a few hours at a time.
- A newborn's ability to hear, see, smell, and feel grows every day.
- Parents can help crying babies calm down by making them feel warm, close, and comfortable—just like it was in the womb.
- Since all parents can get upset from crying babies, it's important to know when and who to ask for help.
- Friends and family can share the delight and the work of caring for newborns.

BABY'S SLEEP AND MOTHER'S REST

Newborns usually sleep 16 to 17 hours a day, but they may sleep for only a couple hours at a time.

- Many babies wake up every 2 to 4 hours, day or night.
- New mothers need plenty of rest after childbirth to get their strength and energy back.
- Mother and baby can take a nap at the same time.
- As the new father supports mom during her recovery, he can enjoy getting to know this new addition to the family!



INFORMATION FOR DADS

It's a new life for you.

Your role as a father will bring about some big changes in your life. The physical, emotional, and financial demands of being a dad can cause stress. You also may feel a little left out during the first few weeks, since much of the attention is on your new baby and the mom. By becoming actively involved with your new baby, feelings of stress and being left out will decrease. You will begin to

- Enjoy the pleasure of being a dad.
- Strengthen your relationship with your baby's mother.
- Contribute to the well-being of your baby.

Ways for you to be involved.

Your baby already knows who you are from hearing your voice before birth.

- As you hold your baby in your arms, enjoy the feeling of your baby cuddling up to you.
- Have fun as you spend time talking to your new baby.
- If you have older children, they will need your support now while their mother is tired and focused on the new baby.

WHEN YOUR BABY CRIES A LOT

Sometimes we just don't know why babies are crying! So, what can you do? Think about what it was like when your baby was in the womb, and try to create a similar experience.

- **Calmly hold** your baby close to your shoulder or chest—inside the womb, it was warm and close.
- **Swaddle** (wrap) your baby in a blanket—toward the end of pregnancy, it was very crowded.
- **Quietly sing or talk** to your baby, softly play calm music—voices heard through the womb were very comforting.
- **Gently rock** your baby or go for a quiet walk—before birth, your baby was used to quietly floating.

There will be a few times when babies will continue to cry until either sleep finally arrives or they become quiet yet alert.

Comforting babies when they cry does not spoil them. In fact, many babies learn how to calm themselves just by knowing that someone will calm them.

Sometimes, babies will continue to fuss after parents have tried everything! They are crying because they have had all the excitement that they can handle for now. This is when it's best to **quietly hold your baby, or put your baby in a safe place, like the crib, and wait until all is calm.**

CRYING BABIES UPSET THEIR PARENTS

All parents get upset when their baby cries. With all this crying, try to stay patient. Your baby can sense when you are upset or tense.

After trying all the ways that usually calm your baby, it's OK to let your baby cry. It's OK to place your baby, faceup, in the crib to calm down. It's OK to let your baby cry sometimes and give yourself time to calm down. Do something that you enjoy and find calming—have a cup of tea or coffee, listen to music, call a friend or spouse, read, or meditate. These feelings of stress are natural and will pass.

If your baby's crying is getting to be too much—and it does get to this point for many parents—reach out for help. Talk with a friend or relative who has been through this, or call your pediatrician.

Never yell at, hit, or shake your baby!

INFORMATION FOR NEW MOMS

Becoming a parent brings big changes to your life—more than you might have imagined!

You may feel tired much of the time.

Your body is recovering from pregnancy and childbirth. At times, you may wonder if you will be able to make it through the first month. This is common and normal. Let family and friends help out with meals, shopping, cleaning, and if you have other children, taking care of them. Don't feel that you need to entertain visitors as well!

You may have wild mood swings.

As your body begins to adjust, you may go from great highs to hopeless lows. This is common during the first weeks after giving birth, but please let people know if you feel down or overwhelmed.

Your feelings deserve attention and support from your family and friends, and from your doctors. If you think you need help, ask for it. Taking care of your emotional and physical health also helps your baby.

You may feel lonely.

Some of your links to family and friends will get stronger, while others may get weaker. Some people will understand what you are going through, and others won't. Your baby needs and will demand much of your attention, time, and energy. If you are a mom who also works outside of the home, chances are you are not seeing friends from work at this time. Try reaching out to family and friends, or find other new mothers who live near you.

BABY BEHAVIOR

Most babies are born able to hear, see, smell, and feel the people and objects that are near them. When your baby is awake, you will notice how the ability to follow people and sounds grows every day.

After a few weeks, babies can stay awake longer. They begin to do everything longer, including fussing and crying. By the time babies are 1 month old, many will cry for 2 or more hours every day. This is completely normal. Between ages 2 and 4 months, most babies will start to cry a lot less—as little as 1 hour for the whole day.

Babies cry the most from ages 2 to 10 weeks.

Babies love the people who care for them. Don't take your baby's crying personally. Babies cry mainly because they are

- Tired
- Hungry
- Hot or cold
- In need of a diaper change
- Overstimulated

The information contained in this publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.

The persons whose photographs are depicted in this publication are professional models. They have no relation to the issues discussed. Any characters they are portraying are fictional.

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The American Academy of Pediatrics is an organization of 66,000 primary care pediatricians, pediatric medical subspecialists, and pediatric surgical specialists dedicated to the health, safety, and well-being of infants, children, adolescents, and young adults.

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Newborn Screening

FACT SHEET

Scan here to get even more information at your fingertips!



What is newborn screening?

Newborn screening is a set of tests that check babies for serious, rare disorders. Most of these disorders cannot be seen at birth but can be treated or helped if found early. The three tests include blood spot, hearing, and pulse oximetry screening.



Blood spot screening checks for over 50 rare but treatable disorders. Early detection can help prevent serious health problems, disability, and even death. The box on the right lists the disorders screened for in Minnesota.



Hearing screening checks for hearing loss in the range where speech is heard. Identifying hearing loss early helps babies stay on track with speech, language, and communication skills.




Pulse oximetry screening checks for a set of serious, life-threatening heart defects known as critical congenital heart disease (CCHD). If detected early, babies with CCHD can often be treated with surgery or other medical interventions.

When will I get my baby's results?

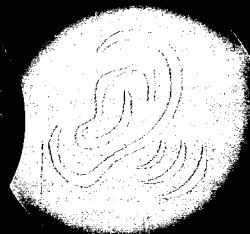
Your baby's hearing and pulse oximetry screen results will be available on the same day of screening. Be sure to ask your birth provider or the person performing the screen to discuss them with you.

The blood spot screening process takes a few days, but your baby's primary care provider will contact you as soon as possible if the results suggest a problem. The first well-child visit is also a good time to talk to your baby's primary care provider about results.



 **Blood spot screening checks babies for:**

- Arginemia
- Argininosuccinate acidemia
- Beta ketothiolase deficiency
- Biopterin cofactor defects (2 types)
- Biotinidase deficiency
- Carnitine acylcarnitine translocase deficiency
- Carnitine palmitoyltransferase deficiency (2 types)
- Carnitine uptake defect
- Citrullinemia (2 types)
- Congenital adrenal hyperplasia
- Congenital hypothyroidism
- Cystic fibrosis
- Dienoyl-CoA reductase deficiency
- Galactokinase deficiency
- Galactosepimerase deficiency
- Galactosemia
- Glutaric acidemia (2 types)
- Hemoglobinopathy variants
- Homocystinuria
- Hypermethioninemia
- Hyperphenylalaninemia
- Isobutyryl-CoA dehydrogenase deficiency
- Isovaleric acidemia
- Long-chain hydroxyacyl-CoA dehydrogenase deficiency
- Malonic acidemia
- Maple syrup urine disease
- Medium-chain acyl-CoA dehydrogenase deficiency
- Medium-chain hydroxy acyl-CoA dehydrogenase deficiency
- Medium-chain keto acyl-CoA thiolase deficiency
- Methylmalonic acidemia (3 types)
- Multiple CoA carboxylase deficiency
- Phenylketonuria
- Primary T-cell lymphopenias
- Propionic acidemia
- Severe combined immunodeficiency
- Short-chain acyl-CoA dehydrogenase deficiency
- Short chain hydroxy acyl-CoA dehydrogenase deficiency
- Sickle cell disease
- Sickle-C disease
- S-beta thalassemia
- Trifunctional protein deficiency
- Tyrosinemia (3 types)
- Very long-chain acyl-CoA dehydrogenase deficiency
- 2-Methyl-3-hydroxybutyric acidemia
- 2-Methylbutyryl-CoA dehydrogenase deficiency
- 3-Hydroxy-3-methylglutaryl-CoA lyase deficiency
- 3-Methylcrotonyl-CoA carboxylase deficiency
- 3-Methylglutaconyl-CoA hydratase deficiency



What happens to the remaining blood spots and results after screening?

Following newborn screening, test results and any leftover blood spots are stored to allow for follow-up testing, if needed. Stored blood spots and test results are also used for general program operations, such as making sure screening is accurate, improving test methods, and developing new newborn screening tests. They are not used for research or public health studies without the parent's written informed consent.

Parents have options regarding the storage of their child's blood spots and test results. You may request that your child's blood spots and results be destroyed, or you may request to obtain the blood spots through your child's primary care provider at any time. You may also choose to allow your child's blood spots and results to be used for public health studies or research. Ask your provider or visit the Newborn Screening Program website for forms and instructions on how to request these options and for the most up-to-date storage and use practices.

What personal information is written on the screening card and sent to the Minnesota Department of Health (MDH)?

The newborn screening card that is sent to MDH for testing contains only the information about mom and baby that will help staff interpret test results and contact your baby's primary care provider if more testing or follow-up is needed. This includes, but is not limited to, baby's name, date of birth, time of birth, mom's name, and the name of baby's primary care provider or clinic.

Can I refuse screening for my baby?

Yes. If you do not want your baby screened, you must complete the *Parental Refusal of Newborn Screening* form. You can ask your birth provider for a copy of the form or download it from the Newborn Screening Program website. You may also choose to arrange for blood spot screening through a private laboratory.

For more information on newborn screening:

Minnesota Newborn Screening Program

www.health.state.mn.us/newbornscreening

MN Early Hearing Detection & Intervention Program

www.improveehdi.org/mn

Save Babies Through Screening Foundation

www.savebabies.org

Baby's First Test

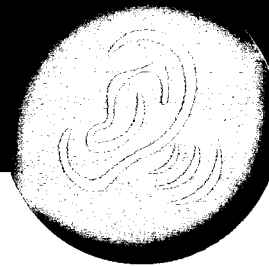
www.babysfirsttest.org



Newborn Screening Program
601 Robert St. N., St. Paul, MN 55155
Phone: (800) 664-7772* or (651) 201-5466*
Fax: (651) 215-6285 *translators available

Newborn Hearing Screening

FACT SHEET



What is newborn hearing screening?

Newborn hearing screening is a test that checks babies for hearing loss in the range where speech is heard. It is one of three newborn screens that should take place soon after birth, along with blood spot and pulse oximetry screening.



Blood spot
screening



Pulse
oximetry
screening



Hearing
screening

Why is hearing screening important?

It's important to identify any problems with hearing as soon as possible because speech and language begin to develop at birth. A child with hearing loss may have difficulty with speech and language without early help. If a baby has hearing loss, it is usually not noticeable to parents or providers because many babies with hearing loss startle to loud sounds and even appear to listen. Screening with follow-up testing is the **only** way to find hearing loss early. Learning that your baby has hearing loss at an early age will help you and your baby find the best ways to communicate.

How and when will my baby's hearing be screened?

Unlike hearing tests for older children and adults, newborn hearing screening does not require active participation from your baby. Instead, a small screening device will play soft sounds while it measures how your baby's inner ear or hearing nerve responds. The two methods currently in use for newborn hearing screening are otoacoustic emissions (OAE) and automated auditory brainstem response (AABR). *See backside for more details.*

Screening should be performed as soon as possible and is best completed before your baby is one month old. If your baby is born in a hospital, the initial screen should be performed before you and your baby go home. Hearing screening is best performed when your baby is calm, well-fed, and comfortable.

What do the results mean?

If your baby receives a PASS result, the screening indicates that your baby's hearing is normal at that time. Because hearing loss can occur at any time during a person's life, however, it is important to discuss any concerns about hearing loss or missed speech milestones with your baby's provider.

If your baby receives a REFER result, the screening indicates that further testing is needed to make sure that your baby is hearing all the sounds that are important for speech and language development. Your provider will help you arrange an appointment for follow-up as soon as possible.

Got a smart phone
or other device?

Scan here to get even
more information at
your fingertips!



How do OAE and AABR work?

With OAE, a soft rubber tip placed in each ear delivers gentle tones and measures the echo that occurs when the ear is functioning normally. With AABR, earphones deliver the test sounds. Sensors placed on the baby's head and neck measure how the baby's hearing nerve responds to those sounds. For both OAE and AABR, a computer measures whether the result is a PASS or a REFER (not pass).

Early Hearing Detection and Intervention Program

The Early Hearing Detection and Intervention (EHDI) program assists in identifying newborns and infants who have or are at risk for having hearing loss and guides families to appropriate intervention services.

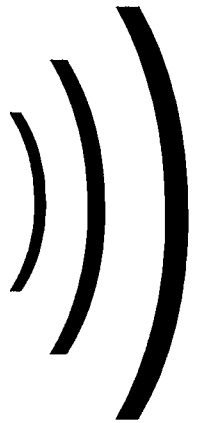
The goals of the EHDI program are for all babies to have:

- hearing screened before 1 month of age
- diagnostic evaluation before 3 months of age
- early intervention services initiated before 6 months of age



Minnesota's EHDI program website provides resources for parents, providers, and other professionals. Parents can learn about the EHDI process, find materials to help guide them through hearing loss identification and intervention, and locate hearing specialists and education resources in their area. The site also offers information to help parents connect with locally-available family and community support systems.

HAVE YOU HEARD?
EVERY YEAR, ABOUT
1 IN 300 BABIES
IN MINNESOTA IS BORN
WITH A HEARING LOSS
THAT CAN BE FOUND
THROUGH NEWBORN
HEARING SCREENING.



More questions about screening?

Feel free to call the Newborn Screening Program
at (800) 664-7772 or visit us online at
www.health.state.mn.us/newbornscreening
or www.improveehdi.org/mn



Safe Sleep and Your Baby:

How Parents Can Reduce the Risk of SIDS and Suffocation

About 3,500 babies die each year in the United States during sleep because of unsafe sleep environments.

Some of these deaths are caused by entrapment, suffocation, or strangulation. Some infants die of sudden infant death syndrome (SIDS). However, there are ways for parents to keep their sleeping baby safe.

Read on for more information from the American Academy of Pediatrics (AAP) on how parents can create a safe sleep environment for their babies. This information should also be shared with anyone who cares for babies, including grandparents, family, friends, babysitters, and child care center staff.

NOTE: These recommendations are for healthy babies up to 1 year of age. A very small number of babies with certain medical conditions may need to be placed to sleep on their stomach. Your baby's doctor can tell you what is best for your baby.

What You Can Do

• Place your baby to sleep on his back for every sleep.

- ° Babies up to 1 year of age should always be placed on their back to sleep during naps and at night. However, if your baby has rolled from his back to his side or stomach on his own, he can be left in that position if he is already able to roll from tummy to back and back to tummy.
- ° If your baby falls asleep in a car safety seat, stroller, swing, infant carrier, or infant sling, he should be moved to a firm sleep surface as soon as possible.
- ° Swaddling (wrapping a light blanket snugly around a baby) may help calm a crying baby. However, if you swaddle your baby before placing him on his back to sleep, stop swaddling him as soon as he starts trying to roll.

• Place your baby to sleep on a firm sleep surface.

- ° The crib, bassinet, portable crib, or play yard should meet current safety standards. Check to make sure the product has not been recalled. Do not use a crib that is broken or missing parts or that has drop-side rails. For more information about crib safety standards, visit the Consumer Product Safety Commission Web site at www.cpsc.gov.
- ° Cover the mattress with a fitted sheet.
- ° Do not put blankets or pillows between the mattress and fitted sheet.
- ° Never put your baby to sleep on an armchair, a sofa, a water bed, a cushion, or a sheepskin. (Parents should also make sure not to fall asleep on an armchair or a sofa while holding a baby.)

• Keep soft objects, loose bedding, or any objects that could increase the risk of entrapment, suffocation, or strangulation out of the crib.

- ° Pillows, quilts, comforters, sheepskins, bumper pads, and stuffed toys can cause your baby to suffocate.

NOTE: Research has not shown us when it's 100% safe to have these objects in the crib; however, most experts agree that these objects pose little risk to healthy babies after 12 months of age.

• Place your baby to sleep in the same room where you sleep but not the same bed.

- ° Keep the crib or bassinet within an arm's reach of your bed. You can easily watch or breastfeed your baby by having your baby nearby.
- ° The AAP cannot make a recommendation for or against the use of bedside sleepers or in-bed sleepers until more studies are done.
- ° Babies who sleep in the same bed as their parents are at risk of SIDS, suffocation, or strangulation. Parents can roll onto babies during sleep, or babies can get tangled in the sheets or blankets.

• Breastfeed as much and for as long as you can. This helps reduce the risk of SIDS.

- ° The AAP recommends breastfeeding as the sole source of nutrition for your baby for about 6 months. When you add solid foods to your baby's diet, continue breastfeeding until at least 12 months. You can continue to breastfeed after 12 months if you and your baby desire.

• Schedule and go to all well-child visits. Your baby will receive important immunizations.

- ° Recent evidence suggests that immunizations may have a protective effect against SIDS.

• Keep your baby away from smokers and places where people smoke. This helps reduce the risk of SIDS.

- ° If you smoke, try to quit. However, until you can quit, keep your car and home smoke-free. Don't smoke inside your home or car, and don't smoke anywhere near your baby, even if you are outside.

• Do not let your baby get too hot. This helps reduce the risk of SIDS.

- ° Keep the room where your baby sleeps at a comfortable temperature.
- ° In general, dress your baby in no more than one extra layer than you would wear. Your baby may be too hot if she is sweating or if her chest feels hot.
- ° If you are worried that your baby is cold, use a wearable blanket, such as a sleeping sack, or warm sleeper that is the right size for your baby. These are made to cover the body and not the head.

• Offer a pacifier at nap time and bedtime. This helps reduce the risk of SIDS.

- ° If you are breastfeeding, wait until breastfeeding is going well before offering a pacifier. This usually takes 3 to 4 weeks. If you are not breastfeeding, you can start a pacifier as soon as you like.

- ° It's OK if your baby doesn't want to use a pacifier. You can try offering a pacifier again, but some babies don't like to use pacifiers.
- ° If the pacifier falls out after your baby falls asleep, you don't have to put it back in.
- ° Do not use pacifiers that attach to infant clothing.
- ° Do not use pacifiers that are attached to objects, such as stuffed toys and other items that may be a suffocation or choking risk.
- **Do not use home cardiorespiratory monitors to help reduce the risk of SIDS.**
- ° Home cardiorespiratory monitors can be helpful for babies with breathing or heart problems, but they have not been found to reduce the risk of SIDS.
- **Use caution when using products that claim to reduce the risk of SIDS.**
- ° Products such as wedges, positioners, special mattresses, and specialized sleep surfaces have not been shown to reduce the risk of SIDS.

- ° Remember to hold your newborn skin to skin while breastfeeding. If you can, do this as soon as you can after birth. Skin-to-skin contact is also beneficial for bottle-fed newborns.

Remember Tummy Time

Give your baby plenty of "tummy time" when she is awake. This will help strengthen neck muscles and help prevent flat spots on the head. Always stay with your baby during tummy time, and make sure she is awake.

From Your Doctor

What Expectant Moms Can Do

- ° Schedule and go to all prenatal doctor visits.
- ° Do not smoke, drink alcohol, or use drugs while pregnant or after the birth of your newborn. Stay away from smokers and places where people smoke.

American Academy of Pediatrics

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Depression or Anxiety During and After Pregnancy

When Being Pregnant or Having a New Baby Is Not What You Expected



You and your baby

Babies need to feel safe and secure with their parent to grow and be healthy. Depression and anxiety can make it hard to help your baby feel safe and secure. You may not enjoy time with your baby or find it difficult to hold, comfort, or play with your baby.

It can be harder to be present for your baby and understand what he or she needs when upset. You may also feel scared to be alone with your baby.

The good news is that depression and anxiety are very treatable. Getting help for yourself helps you as well as your baby. With treatment and support, you and your baby can get back on track to forming a healthy and secure connection.

Symptoms

Depression and anxiety can happen to both moms and dads. For many parents, symptoms begin in pregnancy. For others, symptoms begin after having a baby. Watch for these symptoms:

- Feeling sad, or “empty”
- Feeling worried or anxious
- Lack of energy, feeling very tired
- Lack of interest in normal activities
- Sleeping too much or too little
- Eating too much or too little
- Feeling hopeless, helpless, guilty, or worthless
- Feeling moody or irritable
- Problems concentrating or making simple decisions
- Feeling like you are a bad parent, or that your baby would be better off without you

- Thoughts of hurting your baby, even if you can't imagine acting on them
- Thoughts about death or suicide

If these symptoms last longer than two weeks, you may have prenatal (if it is during the pregnancy) or postpartum (if it is after delivery) depression or anxiety.

When is it an emergency?

If you feel like hurting yourself or if your loved one speaks of hurting herself or himself, then please contact one of the resources on the back.

In very rare cases, women can experience very serious symptoms of psychosis after having a baby including unpredictable behavior, confusion and uncontrollable fear. This is a medical emergency and women should be taken immediately to the Emergency Department at the nearest hospital and should not be left alone with their baby.

What causes depression and anxiety?

There is no single known cause. Women who have a history of depression or anxiety are more likely to become depressed or anxious during pregnancy or after birth.

Stress, hormone changes, trauma, lack of support and other stressful experiences such as infertility or a colicky baby can also increase your risk of experiencing depression and anxiety.

If you are depressed or anxious, you need to get help. With treatment and support, you will feel better more quickly and will be able to give your baby the love and attention that all babies need for healthy development.

Things you can do

Being a good parent means taking care of your baby AND yourself. If you take care of yourself, you can take better care of your baby and your family.

Things you can do:

- Talk with your doctor or midwife. Or ask a loved one to help you get the care you need.
 - Learn as much as you can about postpartum depression.
 - Talk to a therapist, alone or in group therapy.
 - Ask your care provider about medicines that can be safely used during pregnancy or while breastfeeding.
 - Ask your faith or community leaders about other support resources.
 - Ask friends and family for help with childcare, chores, and errands.
 - Keep active by walking, stretching, swimming and so on.
 - Rest when you have the chance.
 - Eat a healthy diet.
- Don't give up! It may take more than one try to get the help you need.

Stories from Other Mothers

"I love children and couldn't wait to have my own. Then my husband went back to work. I started having thoughts about hurting my baby. No matter what I did, I couldn't stop the thoughts. I lived in fear but kept it a secret." – Isabel

"It has been two months since I saw my doctor, and I feel like a different person. The medicine has helped and my family has been very supportive. I have energy again. I love being a mother" – Malia

OP What you should know

It is very common to feel many emotions during pregnancy or after having a baby. Some women may feel joyful. Others may feel happy sometimes, and stressed and tearful other times. Most of the time, these feelings are mild and come and go.

For some women, feelings of sadness, worry, or stress can be so strong that it is hard to take care of yourself or your baby. When these symptoms last longer than two weeks, you may have depression or anxiety. This happens to 2 out of 10 women and 1 out of 10 fathers. It can happen during pregnancy or anytime in your baby's first year.

Parents of any culture, age, income level, education, and race can experience depression and anxiety. Even though it is common, it is very important to take seriously. Help is available. With treatment and support, you will feel better.

The best treatment

The most effective treatment for depression and anxiety can include:

- Individual or group therapy
- Medicine that can be safely used during pregnancy or while breastfeeding (prescribed by your healthcare provider)
- Support from your family, friends and community

Who to contact for help:

For Immediate Help: Call 911 or Crisis Connection at 866-379-6363; TTY 612-379-6377 or Text "LIFE" to 61222 available in many rural areas.

Or

National Suicide Prevention Lifeline
1-800-273-TALK

United Way First Call for Help
2-1-1 or www.211unitedway.org

Mother-Baby Hopeline at Hennepin County Medical Center:
(612) 873-HOPE or (612) 873-4673
Mental health support and resources. The Hopeline is not a crisis phone line. They will call you back within 2 days.

Pregnancy Postpartum Support Minnesota Resource List: www.ppsupportmn.org
PPSM Helpline call or TEXT to (612) 787-PPSM or PPSMhelpline@gmail.com
Support and information provided by peer volunteers 7 days a week

MDH Minnesota
Department of Health

This brochure meets the requirements of Minnesota Statute 145.906. For more information, call the Minnesota Department of Health at 651-201-3760. Or visit our website at <http://www.health.state.mn.us/dhs/chh/pregnant/mdh/> 10/2016– English

Keys to Successful Breastfeeding

Practice skin-to-skin care to help breastfeeding get started

- Place baby skin-to-skin on your chest as soon as possible after delivery.
- Keeps baby warm and medically stable.
- Helps baby start breastfeeding.
- Father can care for baby skin-to-skin if mother is not available.

Keep baby with you in your room

- Snuggle skin-to-skin with mom or dad whenever possible.
- Turn down offers to have your baby in the nursery at night.
- Staying together helps you get to know baby and learn breastfeeding.
- Builds confidence in breastfeeding before you go home from the hospital.
- Get a nap during the day when baby is napping.

Breastfeed frequently

- Follow your baby's feeding cues, not the clock.
- Feed whenever your baby shows signs of hunger.
- Let baby finish nursing on the first breast before offering the second breast.
- Avoid a pacifier. Ask the staff to show you other ways to comfort your baby.



Plan to feed only breast milk

- Frequent breast feedings help prevent engorgement and help establish a full milk supply.
- If it is medically necessary to give additional feedings to your baby, use your milk first. Seek help with manual expression or pumping if needed.
- Avoid bottles. The staff can show you how to use other feeding methods if a supplement is medically necessary.

Ask for help with breastfeeding

- It is normal to feel awkward or uncomfortable at first.
- Ask for the staff to help if it hurts to breastfeed or your nipples are getting sore.
- Learn where to get help with breastfeeding concerns before you go home.

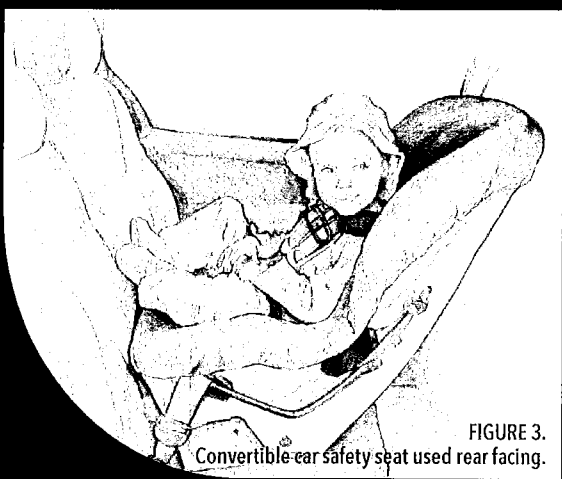
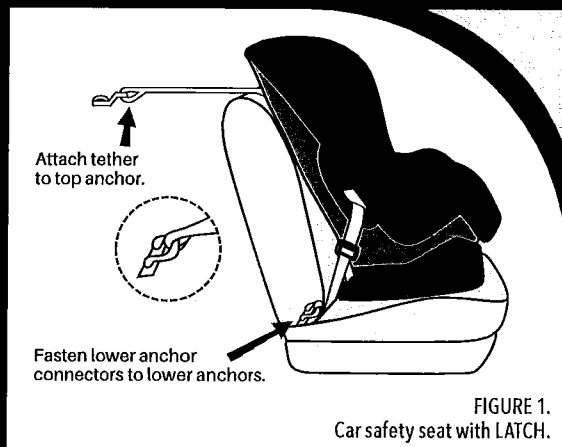
*Washington County
Breastfeeding Coalition*

<http://www.livinghealthywc.org/Breastfeeding.html>

Duplicate as needed 3/2013

LivingHealthy
IN WASHINGTON COUNTY

Car Safety Seat Checkup



Using a car safety seat correctly makes a big difference. Even the right seat for your child's size must be used correctly to properly protect your child in a crash. Here are car safety seat tips from the American Academy of Pediatrics.

Does your car have airbags?

- Never place a rear-facing car safety seat in the front seat of a vehicle that has a front passenger airbag. If the airbag inflates, it will hit the back of the car safety seat, right where your baby's head rests, and could cause serious injury or death.
- The safest place for all children younger than 13 years to ride is in the back seat regardless of weight and height.
- If an older child must ride in the front seat, a child in a forward-facing car safety seat with a harness may be the best choice. Be sure you move the vehicle seat as far back from the dashboard (and airbag) as possible.

Is your child facing the right way for weight, height, and age?

- All infants and toddlers should ride in a rear-facing car safety seat until they reach the highest weight or height allowed by their car safety seat manufacturer. When infants outgrow a rear-facing-only seat, they should use a rear-facing convertible seat. Most convertible seats have limits that will allow children to ride rear facing for 2 years or more.
- Any child who has outgrown the rear-facing weight or height limit for his convertible car safety seat should use a forward-facing seat with a harness for as long as possible, up to the highest weight or height allowed by his car safety seat manufacturer. Many seats can accommodate children up to 65 pounds or more.

Is the harness snug?

- Harness straps should fit snugly against your child's body. Check the car safety seat instructions to learn how to adjust the straps.
- Place the chest clip at armpit level to keep the harness straps secure on the shoulders.

Does the car safety seat fit correctly in your vehicle?

- Not all car safety seats fit properly in all vehicles.
- Read the section on car safety seats in the owner's manual for your car.

Can you use the LATCH system?

- LATCH (lower anchors and tethers for children) is a car safety seat attachment system that can be used instead of the seat belt to install the seat. These systems are equally safe, but in some cases, it may be easier to install the car safety seat using LATCH.
- Vehicles with the LATCH system have anchors located in the back seat, where the seat cushions meet. All car safety seats have attachments that fasten to these anchors. Nearly all passenger vehicles made on or after September 1, 2002, and all car safety seats are equipped to use LATCH. All lower anchors are rated for a maximum weight of 65 pounds (total weight includes car safety seat and child). Check the car safety seat manufacturer's recommendations for the maximum weight a child can be to use lower anchors. New car safety seats have the maximum weight printed on their label.
- The top tether improves safety provided by the seat. Use the tether for all forward-facing seats. Check your vehicle owner's manual for the location of tether anchors. Always follow both the car safety seat and vehicle manufacturer instructions, including weight limits, for lower anchors and tethers. Remember, weight limits are different for different car safety seats and different vehicles.

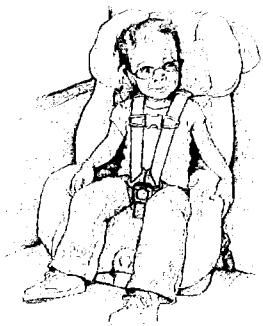


FIGURE 4.
Forward-facing car safety seat with harness.



FIGURE 5.
Belt-positioning booster seat.

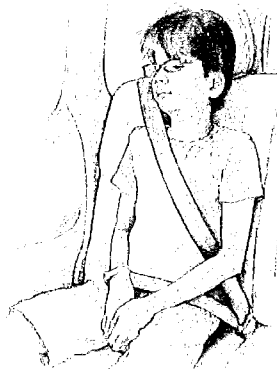


FIGURE 6.
Lap and shoulder seat belt.

Is the seat belt or LATCH strap in the right place and pulled tight?

- Route the seat belt or LATCH strap through the correct path. Convertible seats have different belt paths for when they are used rear facing or forward facing (check your instructions to make sure).
- Pull the belt tight. Apply weight into the seat with your hand while tightening the seat belt or LATCH strap. When the car safety seat is installed, be sure it does not move more than an inch side to side or toward the front of the car.
- If you install the car safety seat using your vehicle's seat belt, you must make sure the seat belt locks to keep a tight fit. In most newer cars, you can lock the seat belt by pulling it all the way out and then allowing it to retract to keep the seat belt tight around the car safety seat. Many car safety seats have built-in lock-offs to lock the belt. Check your vehicle owner's manual and car safety seat instructions to make sure you are using the seat belt correctly.
- It is best to use the tether that comes with your car safety seat to the highest weight allowed by your vehicle and the manufacturer of your car safety seat. Check your vehicle owner's manual and car safety seat instructions for how and when to use the tether and lower anchors.

Has your child outgrown the forward-facing seat?

- All children whose weight or height is above the forward-facing limit for their car safety seat should use a belt-positioning booster seat until the vehicle seat belt fits properly, typically when they have reached 4 feet 9 inches in height and are 8 through 12 years of age.
- A seat belt fits properly when the shoulder belt lies across the middle of the chest and shoulder, not the neck or throat; the lap belt is low and snug across the upper thighs, not the belly; and the child is tall enough to sit against the vehicle seat back with her knees bent over the

edge of the seat without slouching and can comfortably stay in this position throughout the trip.

Do you have the instructions for the car safety seat?

- Follow them and keep them with the car safety seat.
- Keep your child in the car safety seat until she reaches the weight or height limit set by the manufacturer. Follow the instructions to determine whether your child should ride rear facing or forward facing and whether to install the seat using LATCH or the vehicle seat belt.

Has the car safety seat been recalled?

- You can find out by calling the manufacturer or the National Highway Traffic Safety Administration (NHTSA) Vehicle Safety Hotline at 888/327-4236 or by going to the NHTSA Web site at www.safercar.gov.
- Follow the manufacturer's instructions for making any repairs to your car safety seat.
- Be sure to fill in and mail in the registration card that comes with the car safety seat. It will be important in case the seat is recalled.

Do you know the history of your child's car safety seat?

- Do not use a used car safety seat if you do not know the history of the seat.
- Do not use a car safety seat that has been in a crash, has been recalled, is too old (check the expiration date or use 6 years from date of manufacture if there is no expiration date), has any cracks in its frame, or is missing parts.
- Make sure it has labels from the manufacturer and instructions.
- Call the car safety seat manufacturer if you have questions about the safety of your seat.

Resources

If you have questions or need help installing your car safety seat, find a certified child passenger safety technician (CPST) by going to the National Child Passenger Safety Certification Web site at <http://cert.safekids.org> and clicking on "Find a Tech."

The American Academy of Pediatrics (AAP) offers more information in the brochure *Car Safety Seats: Guide for Families*. Ask your pediatrician about this brochure or visit the official AAP Web site for parents, www.HealthyChildren.org/carseatguide.

Figure 1 adapted from US Department of Transportation, National Highway Traffic Safety Administration. *LATCH Makes Child Safety Seat Installation as Easy as 1-2-3*. DOT HS publication 809 489. Published March 2011.

Figures 2, 3, 4, 5, and 6 by Anthony Alex LeTourneau.

Listing of resources does not imply an endorsement by the American Academy of Pediatrics (AAP). The AAP is not responsible for the content of external resources. Information was current at the time of publication.

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DEDICATED TO THE HEALTH OF ALL CHILDREN®



VACCINE INFORMATION STATEMENT

Your Child's First Vaccines

What You Need to Know

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

The vaccines covered on this statement are those most likely to be given during the same visits during infancy and early childhood. Other vaccines (including measles, mumps, and rubella; varicella; rotavirus; influenza; and hepatitis A) are also routinely recommended during the first five years of life.

Your child will get these vaccines today:

☐ DTaP ☐ Hib ☐ Hepatitis B ☐ Polio ☐ PCV13

(Provider: Check appropriate boxes.)

1 Why get vaccinated?

Vaccine-preventable diseases are much less common than they used to be, thanks to vaccination. But they have not gone away. Outbreaks of some of these diseases still occur across the United States. **When fewer babies get vaccinated, more babies get sick.**

7 childhood diseases that can be prevented by vaccines:

1. Diphtheria (the 'D' in DTaP vaccine)

- **Signs and symptoms** include a thick coating in the back of the throat that can make it hard to breathe.
- **Diphtheria can lead to** breathing problems, paralysis and heart failure.
 - About 15,000 people died each year in the U.S. from diphtheria before there was a vaccine.

2. Tetanus (the 'T' in DTaP vaccine; also known as Lockjaw)

- **Signs and symptoms** include painful tightening of the muscles, usually all over the body.
- **Tetanus can lead to** stiffness of the jaw that can make it difficult to open the mouth or swallow.
 - Tetanus kills about 1 person out of every 10 who get it.

3. Pertussis (the 'P' in DTaP vaccine, also known as Whooping Cough)

- **Signs and symptoms** include violent coughing spells that can make it hard for a baby to eat, drink, or breathe. These spells can last for several weeks.
- **Pertussis can lead to** pneumonia, seizures, brain damage, or death. Pertussis can be very dangerous in infants.
 - Most pertussis deaths are in babies younger than 3 months of age.

4. Hib (*Haemophilus influenzae* type b)

- **Signs and symptoms** can include fever, headache, stiff neck, cough, and shortness of breath. There might not be any signs or symptoms in mild cases.
- **Hib can lead to** meningitis (infection of the brain and spinal cord coverings); pneumonia; infections of the ears, sinuses, blood, joints, bones, and covering of the heart; brain damage; severe swelling of the throat, making it hard to breathe; and deafness.
 - Children younger than 5 years of age are at greatest risk for Hib disease.

5. Hepatitis B

- **Signs and symptoms** include tiredness, diarrhea and vomiting, jaundice (yellow skin or eyes), and pain in muscles, joints and stomach. But usually there are no signs or symptoms at all.
- **Hepatitis B can lead to** liver damage, and liver cancer. Some people develop chronic (long term) hepatitis B infection. These people might not look or feel sick, but they can infect others.
 - Hepatitis B can cause liver damage and cancer in 1 child out of 4 who are chronically infected.

6. Polio

- **Signs and symptoms** can include flu-like illness, or there may be no signs or symptoms at all.
- **Polio can lead to** permanent paralysis (can't move an arm or leg, or sometimes can't breathe) and death.
 - In the 1950s, polio paralyzed more than 15,000 people every year in the U.S.



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

7. Pneumococcal Disease

- **Signs and symptoms** include fever, chills, cough, and chest pain. In infants, symptoms can also include meningitis, seizures, and sometimes rash.
- **Pneumococcal disease can lead to meningitis** (infection of the brain and spinal cord coverings); infections of the ears, sinuses and blood; pneumonia; deafness; and brain damage.
 - About 1 out of 15 children who get pneumococcal meningitis will die from the infection.

Children usually catch these diseases from other children or adults, who might not even know they are infected. A mother infected with hepatitis B can infect her baby at birth. Tetanus enters the body through a cut or wound; it is not spread from person to person.

Vaccines that protect your baby from these seven diseases:

| Vaccine | Number of doses | Recommended ages | Other information |
|---------------------------------------------|-----------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------|
| DTaP (Diphtheria, Tetanus, Pertussis) | 5 | 2 months, 4 months, 6 months, 15-18 months, 4-6 years | Some children get a vaccine called DT (Diphtheria & Tetanus) instead of DTaP. |
| Hepatitis B | 3 | Birth, 1-2 months, 6-18 months | |
| Polio | 4 | 2 months, 4 months, 6-18 months, 4-6 years | An additional dose of polio vaccine may be recommended for travel to certain countries. |
| Hib (<i>Haemophilus influenzae</i> type b) | 3 or 4 | 2 months, 4 months, (6 months), 12-15 months | There are several Hib vaccines. With one of them the 6-month dose is not needed. |
| Pneumococcal (PCV13) | 4 | 2 months, 4 months, 6 months, 12-15 months | Older children with certain health conditions also need this vaccine. |

Your healthcare provider might offer some of these vaccines as **combination vaccines** — several vaccines given in the same shot. Combination vaccines are as safe and effective as the individual vaccines, and can mean fewer shots for your baby.

2

Some children should not get certain vaccines

Most children can safely get all of these vaccines. But there are some exceptions:

- A child who has a mild cold or other illness on the day vaccinations are scheduled may be vaccinated. A child who is moderately or severely ill on the day of vaccinations might be asked to come back for them at a later date.
- Any child who had a life-threatening allergic reaction after getting a vaccine should not get another dose of that vaccine. ***Tell the person giving the vaccines if your child has ever had a severe reaction after any vaccination.***
- A child who has a severe (life-threatening) allergy to a substance should not get a vaccine that contains that substance. ***Tell the person giving your child the vaccines if your child has any severe allergies that you are aware of.***

Talk to your doctor before your child gets:

- **DTaP vaccine**, if your child ever had any of these reactions after a previous dose of DTaP:
 - A brain or nervous system disease within 7 days,
 - Non-stop crying for 3 hours or more,
 - A seizure or collapse,
 - A fever of over 105°F.
- **PCV13 vaccine**, if your child ever had a severe reaction after a dose of DTaP (or other vaccine containing diphtheria toxoid), or after a dose of PCV7, an earlier pneumococcal vaccine.

3

Risks of a Vaccine Reaction

With any medicine, including vaccines, there is a chance of side effects. These are usually mild and go away on their own. Most vaccine reactions are not serious: tenderness, redness, or swelling where the shot was given; or a mild fever. These happen soon after the shot is given and go away within a day or two. They happen with up to about half of vaccinations, depending on the vaccine.

Serious reactions are also possible but are rare.

Polio, Hepatitis B and Hib Vaccines have been associated only with mild reactions.

DTaP and Pneumococcal vaccines have also been associated with other problems:

DTaP Vaccine

- **Mild Problems:** Fussiness (up to 1 child in 3); tiredness or loss of appetite (up to 1 child in 10); vomiting (up to 1 child in 50); swelling of the entire arm or leg for 1-7 days (up to 1 child in 30)—usually after the 4th or 5th dose.
- **Moderate Problems:** Seizure (1 child in 14,000); non-stop crying for 3 hours or longer (up to 1 child in 1,000); fever over 105°F (1 child in 16,000).
- **Serious problems:** Long term seizures, coma, lowered consciousness, and permanent brain damage have been reported following DTaP vaccination. These reports are extremely rare.

Pneumococcal Vaccine

- **Mild Problems:** Drowsiness or temporary loss of appetite (about 1 child in 2 or 3); fussiness (about 8 children in 10).
- **Moderate Problems:** Fever over 102.2°F (about 1 child in 20).

After any vaccine:

Any medication can cause a severe allergic reaction. Such reactions from a vaccine are very rare, estimated at about 1 in a million doses, and would happen within a few minutes to a few hours after the vaccination.

As with any medicine, there is a very remote chance of a vaccine causing a serious injury or death.

The safety of vaccines is always being monitored. For more information, visit: www.cdc.gov/vaccinesafety/

4

What if there is a serious reaction?

What should I look for?

- Look for anything that concerns you, such as signs of a severe allergic reaction, very high fever, or unusual behavior.

Signs of a severe allergic reaction can include hives, swelling of the face and throat, and difficulty breathing. In infants, signs of an allergic reaction might also include fever, sleepiness, and disinterest in eating. In older children signs might include a fast heartbeat, dizziness, and weakness. These would usually start a few minutes to a few hours after the vaccination.

What should I do?

- If you think it is a severe allergic reaction or other emergency that can't wait, call 9-1-1 or get the person to the nearest hospital. Otherwise, call your doctor.

Afterward, the reaction should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your doctor should file this report, or you can do it yourself through the VAERS web site at www.vaers.hhs.gov, or by calling **1-800-822-7967**.

VAERS does not give medical advice.

5

The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines.

Persons who believe they may have been injured by a vaccine can learn about the program and about filing a claim by calling **1-800-338-2382** or visiting the VICP website at www.hrsa.gov/vaccinecompensation. There is a time limit to file a claim for compensation.

6

How can I learn more?

- Ask your healthcare provider. He or she can give you the vaccine package insert or suggest other sources of information.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
 - Call **1-800-232-4636 (1-800-CDC-INFO)**
 - Visit CDC's website at www.cdc.gov/vaccines or www.cdc.gov/hepatitis

Vaccine Information Statement Multi Pediatric Vaccines

11/05/2015

42 U.S.C. § 300aa-26

Office Use Only





After 5 years of age, check-ups are recommended every year.

*The influenza vaccine is recommended for all children on a yearly basis beginning at 6 months of age.

Recommended Physical Exam and Immunization Schedule

| | |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Newborn | Hepatitis B |
| 1 Month | |
| 2 Months | Pediarix, Hib, Prevnar, Rotarix |
| 4 Months | Pediarix, Hib, Prevnar, Rotarix |
| 6 Months | Pediarix, Prevnar, Influenza* |
| 9 Months | |
| 12 Months | Prevnar, Hep A, MMR, Varicella |
| 15 Months | DTaP, Hib |
| 18 Months | Hep A |
| 2 Years | |
| 30 Months | |
| 3 Years | |
| 4 Years | ProQuad |
| 5-6 Years | Kinrix |
| 9-11 Years | Gardasil (2 doses of Gardasil at least 6 months apart. If the Gardasil series begins at age 15 or above, a total of 3 doses will be needed). |
| 11-12 Years | Tdap, Menveo |
| 16-18 Years | Menveo |
| Pediarix | DTaP, Polio, and Hepatitis B |
| DTaP | Diphtheria, Tetanus and Pertussis (for children 6 yrs and under). |
| IPV | Inactivated Polio Virus |
| Hib | Haemophilus Influenza B (this is not the flu shot). |
| Prevnar | Pneumococcal Conjugate |
| MMR | Measles, Mumps and Rubella |
| Varivax | (Varicella) Chickenpox |
| Tdap | Diphtheria, Tetanus and Pertussis (for children 10 yrs and older). |
| Menveo | Meningococcal |
| ProQuad | Measles, Mumps, Rubella & Chickenpox |
| Rotarix | Rotavirus |
| Gardasil 9 | Human Papilloma Virus |
| Kinrix | Diphtheria, Tetanus, Pertussis and Inactivated Polio Virus |
| Influenza | Influenza (Flu) |

Revised 4.12.19

-Clear Answers and Smart Advice About Your Baby's Shots

By Ari Brown, MD, FAAP



Dr. Brown received her medical degree from Baylor College of Medicine in Houston, Texas; she did her pediatric residency at Harvard Medical School/Boston Children's Hospital. In private practice since 1995, Dr. Brown is perhaps best known as the coauthor of the 411 parenting book series – *Expecting 411: Clear Answers and Smart Advice for Your Pregnancy*, *Baby 411*, and *Toddler 411* (Windsor Peak Press).

In response to the recent media attention given to vaccines, autism, and other controversies concerning vaccines, the Immunization Action Coalition (IAC) offers this **special excerpt from *Baby 411*** that answers these questions and more. IAC thanks Dr. Brown for this clearly written information, but mostly we are grateful for her continued advocacy for safe and effective vaccines.

It's time to jump right into a hot topic you'll find in parent circles – vaccines. Nothing seems to stir the blood these days more than a good ol' fashion debate on vaccinating your child. And after the 2015 measles outbreak at Disneyland, the silent majority of parents who believe in vaccinations are far from silent.

A head's up: since there is so much misinformation out there on vaccines, you need to be armed with detailed, accurate information. And like the rest of this book, that is what you will get in this chapter. The information we provide is based on scientific evidence and solid peer-reviewed research. Remember our mantra: show us the science! Your child is too precious to make such important decisions on anything less. This chapter is not based on personal anecdotes, conspiracy theories, "research" done in people's basements (we are not kidding), or the crusades of B-list celebrities.

However, before we get to our take on this debate, let's go back in time a bit. Well, more than a bit. How did the human race survive when other early humans didn't? Yes, making tools and finding food most efficiently played a big role. But here's another key element: we built civilizations. And we developed a sense of responsibility – to ourselves and to our society. Every time we respond to a tragedy in our nation – whether it be 9/11, Hurricane Sandy, or the Boston Marathon bombing – we are reminded of how we are not just individuals living in our own little worlds. It's part of our civic duty to lend a hand and take care of our neighbors.

So, what's this pontificating have to do with vaccines? Again, it is our responsibility to work together as a community... this time, the subject isn't terrorism or storms, but something that can be just as terrifying: infectious diseases. Consider a bit of history: in the 1890s, people would have seven or eight children in their families and only half of them would survive childhood. Just go to an old graveyard sometime and look at the ages listed on the headstones. Many of the diseases that killed those children are now prevented by vaccination. It's a fact: vaccinations have increased the life expectancy of our nation's children. That's why our grandparents and parents embraced vaccines.

Here's a crucial point: the key to a vaccine's success is that everyone in the community gets vaccinated. Vaccines won't work if a large number of folks just choose to opt out of the system and their responsibility. Please keep this in mind as you read about vaccinations. Your

decision (and every other parent's decision) affects your child. And society as a whole. Germs are rather simple creatures... they just look for a new person to infect. They don't play politics.

■ REALITY CHECK

The concept of "public health" has been around since antiquity. Obviously, rulers had a vested interest in keeping their subjects healthy so they had a society to rule. Through the years, governments have been responsible for managing numerous programs. The most important advances in public health have been vaccination programs, water purification, and waste disposal/sanitation systems. The only way for public health to work, though, is for all members of the community to follow the same rules.

Who came up with the idea of vaccinations in the first place?

It took centuries of observation as well as trial and error. (And sometimes, error meant death.) The first real step was describing the disease, in this case, smallpox. Smallpox was a deadly disease that, historically, wiped out entire civilizations. The earliest descriptions can be found as far back as the ninth and tenth centuries among Turks. In fact, "inoculation," or the infecting of a person with the disease in hopes of introducing a mild form and then creating immunity, was practiced first in Asia. In the 1700s an English aristocrat, Lady Mary Wortly Montagu, was living in Constantinople and learned of the practice of inoculation (known then as variolation). She had her son inoculated and subsequently, brought the practice back to England.

At about the same time, an English country doctor, Edward Jenner, made an interesting connection: milkmaids who had been exposed to cowpox (a common disease in cattle at the time) never seemed to get smallpox infections during epidemics. He began to study the idea that vaccinating humans with cowpox virus would make them immune to smallpox. In 1798 he published a paper on his idea and called it "Vaccination." Not to say, by the way, that Dr. Jenner's idea was accepted with completely open arms. In the nineteenth century there did emerge a group opposed to vaccination led by Mary C. Hume. See, even the anti-vaccination lobby has been around a long time! Of course, in those days, you could be prosecuted for refusing to vaccinate.¹

CONTINUED ON THE NEXT PAGE ►

People were inoculated with a small amount of cowpox virus on their arm. It caused a localized infection at that site (hence, the scar that we forty-somethings and above bear). And true to Dr. Jenner's hypothesis, it provided protection against smallpox disease. In 1972, the United States stopped vaccinating against smallpox because it was no longer a threat to the population. In 1977, the last case of smallpox occurred in Somalia. In 1980, the World Health Organization declared the world free of smallpox, thanks to a global effort to immunize all children.

The success of the smallpox vaccine and other scientific discoveries led to the evolution of many vaccines. These new, safer vaccines are extremely effective in preventing diseases and epidemics that our grandparents and parents can still remember.

Why do you care whether I vaccinate my child or not?

For starters, I want your baby to be protected. But I also want you to realize that the decision to vaccinate your child impacts the health of other children in the community. Choosing NOT to vaccinate your child is choosing to put your child AND your community's children at risk. As a parent, you want to make the right choices for your child to protect them. I want you to ask questions. I want you to be informed. And I want you to get your child vaccinated. YOUR decision impacts ALL children. Why? There are two critical points for vaccination to work:

1. You need to be vaccinated.
2. Your neighbor needs to be vaccinated.

This concept is called herd immunity. And yes, you are a member of a herd. When 90–95% of “the herd” is protected, it is nearly impossible for a germ to cause an epidemic. Think of germs as rain. Vaccination is a raincoat. Even with a raincoat on, you can still get wet. You need an umbrella, too. The umbrella is “herd immunity.” Those who don't vaccinate expect someone to share their umbrella when it rains. But society can only buy umbrellas TOGETHER. And raincoats aren't made for newborns – they need umbrellas!

As comedian Jon Stewart once put it, herd immunity is like a zombie movie. You are in an isolated farmhouse and the occupants rely on each other to board up their windows to keep the zombies (germs) out. The zombies get in when some lady from Marin County decides not to board up her windows because she read an article on a wellness blog about the potential health risks of boarding up windows. You can guess what happens!

Some parenting decisions have little or no impact on the community at large. Deciding whether or not your child eats organic baby food, goes to preschool, or sleeps in a family bed is entirely up to you – your decision only affects your child.

However, your decision whether or not to vaccinate your child affects all our kids. If you are a parent who is considering delaying or skipping vaccinations altogether, please realize the impact of your decision.

If more than 10% of American parents choose to “opt out” of vaccines, there's no question that our entire country will see these horrible diseases of bygone days return. Fortunately, very few parents decide to do this.

What is most concerning today is that there are pockets of under-vaccinated children. Birds of a feather flock together. Like-minded parents who don't vaccinate their kids tend to live in the same community and send their kids to the same schools. With lower immunization rates, there is no herd immunity. We have these “Ground Zero” areas to thank for recent measles and whooping cough outbreaks.²

■ REALITY CHECK

The Good News – While parents are asking more questions, they are still choosing to vaccinate their kids. The most recent Centers for Disease Control and Prevention (CDC) survey (2013) showed 99.3% of U.S. children aged 19 to 35 months are being vaccinated. Yes, 99.3%. Despite all the media stories on vaccine “controversy,” only a tiny fraction of parents – less than 1% – are choosing to forgo vaccinations.

Some Common Vaccine Questions

What are vaccines?

Vaccines are materials that are given to a person to protect them from disease (that is, provide immunity). The word vaccine is derived from “vaccinia” (cowpox virus), which was used to create the first vaccine in history (smallpox). Modern medicine has created many vaccines. Vaccines PREVENT viral and bacteria infections that used to cause serious illness and death.

How do vaccines work?

Here is your microbiology lesson for today. Your immune system is your body's defense against foreign invaders (viruses, bacteria, parasites). Vaccines prepare your body to recognize foreigners without getting infected. A vaccine revs up your immune system to make antibodies (smart bombs with memory) for the signature of a particular germ. So, if your body sees the real germ, voila! You already know how to fight it off. There are three types of vaccinations: inactivated, live attenuated, and inactivated bacterial toxins.

- Inactivated vaccines do not contain any living germs. An immune response forms against either a dead germ, part of the germ (recombinant DNA), or a protein or sugar marker that sits on the outer layer of the germ (its signature). Very cool. These vaccines are safe to give to immune-compromised people. The only down side is that several doses of the vaccine are needed to provide full, life-long protection against disease. Some of these types of vaccines include: influenza, hepatitis A & B, *Haemophilus influenzae* type B (Hib), pertussis (whooping cough), inactivated polio, pneumococcal.
- Live attenuated vaccines are weak forms of the germs that cause infection. An immune response occurs just as if your body had the infection. So one or two doses of vaccine gives you lifelong protection. These vaccines are not given to immune-compromised people because they can make them sick. Examples include: measles, mumps, and rubella, oral polio, smallpox, tuberculosis, varicella (chickenpox), rotavirus.
- Toxoids (inactivated bacterial toxins) are vaccines that create a defense against the toxin (poison) that a bacteria germ makes. Examples of toxoid vaccines include: diphtheria, tetanus.

What are the diseases we are protected against with vaccination?

Good question. You are probably unfamiliar with most of these diseases since we don't see them much anymore in the U.S. After you hear about the many successes we've had in eradicating disease with vaccination, thank your parents for immunizing you. As you read

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through the vaccination schedule, note that some diseases are viruses. Antibiotics kill bacteria only. Doctors have no medications to cure the viral infections. Doubt the effectiveness of vaccines? Just take a look at the sharp decline of illness and death rates from these diseases since 1950. Here is the link if you want to check it out: www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/E/reported-cases.pdf. Rather amazing, no? Diseases that used to kill thousands (if not hundreds of thousands) now only harm a handful of people – thanks to vaccines.

How are vaccines tested to make sure they're safe?

Vaccines are researched extensively for an average of 15 years before being approved for use. A pharmaceutical company conducts medical research trials in a series of stages. Once safety is proven, the vaccine is tested in several thousand volunteers to make sure the vaccine actually works. These volunteers are followed for at least one year to be sure that no serious side effects occur.

Nothing in this world is 100% foolproof, including vaccine science. But the research trials that occur before licensing are very rigid. If you think there are a lot of vaccines on the market, imagine how many didn't make it through the research phase of development.

The Food and Drug Administration (FDA) governs this whole process. The FDA is the watchdog for any medication that is sold over-the-counter or by prescription. There are extremely high standards that must be met before any product is allowed for human use.

After a vaccine is approved for use, long-term follow-up studies are done to assess for side effects, adverse reactions, and potency over a lifetime.

■ REALITY CHECK

Given the FDA's mixed track record, you may be skeptical about trusting the government when it comes to vaccine safety. But in truth, the system is in place to protect consumers. Although conspiracy theorists might disagree, the FDA really is on our side.

To improve drug and vaccine safety, the Institute of Medicine has called for an overhaul of how the FDA works – in the future, the FDA will do more ongoing safety reviews of medicines and make all clinical study results public. This should help boost public confidence in the FDA and vaccine safety.

Why is my child getting more shots than I did?

Simple answer: we've been successful inventing vaccines to fight more diseases. It's one of the important advances in modern medicine – vaccines prevent disease, injury, and death. More vaccines are a good thing!

An important point: many of the vaccine-preventable diseases are viruses. These viral infections cannot be treated with medicine once an infection occurs (for example, Hepatitis B).

Vaccines that protect against bacterial diseases are often serious ones, and resistant to many antibiotics (for example, Prevnar).

And even though the number of shots has gone up, the total load on the immune system has gone down. Today's vaccines are smarter and better engineered than the shots from a few decades ago. In fact, the total number of immunologic agents in the entire childhood vaccination series today is less than what was in just two vaccines in 1980!

Our children are getting smarter, safer vaccines today and better protection than we ever got as kids.

Are we giving too many shots, too soon?

This is a false mantra of the anti-vaccine crowd: they say babies are receiving too many shots (compared to say, 1980) and too soon (infants can't handle all these shots, they say).

So, let's look at this scientifically. On any given day, your baby is exposed to literally thousands of germs (it doesn't matter how spotless your house is). Exposing your child to five to eight different germs in the form of vaccines is a spit in the bucket.

Young children have better immune responses to vaccines than adults and older children. So they will form adequate immune responses to various vaccines simultaneously. (This is studied extensively before a vaccine is licensed.) Even if your baby got 11 shots at the same time, he would only need to use about 0.1% of his immune system to respond to them.³

Giving several vaccines at once does not damage, weaken, or overload the immune system. Vaccines boost the immune system. Also, the diseases that the vaccines protect against are the most severe in infants and young children. Your doctor wants to get those vaccinations in as safely and effectively as possible. That's why the timing is so important (and why a staggered or delayed vaccination schedule is a bad idea – more on that in the controversies section of this handout).

Can't you just give one big shot that has all the vaccines in it?

Medical science is working on it!

There have been a few combination vaccines licensed for use. The largest combination vaccines are Pediarix (DTaP, IPV, Hepatitis B) and Pentacel (DTaP, IPV, Hib). The reason there isn't just one big shot is that some vaccines are ineffective when they are sitting together in a solution. Your baby may still need more than one shot, but if your doctor uses a combo vaccine, at least it will be fewer shots than if they are all administered separately.

More combination vaccines are on the horizon.

What groups make decisions about vaccinations for children?

There are four governing panels of experts in infectious diseases that make recommendations for vaccinations. These smart folks include: American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), Advisory Committee on Immunization Practices (ACIP), and the Centers for Disease Control and Prevention (CDC). Because there are several groups involved in this effort, there is some variability in vaccination schedule recommendations.

My baby has a cold. Should I hold off on vaccinations?

No! This is a common misconception of parents. Even if your baby has a minor illness, he can still get his shots. We cannot stress how important it is to get your child vaccinated in a timely manner. So don't let a sniffle or two make you reschedule an office visit for shots. Your child can also get his shots even if he is on antibiotics.

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Can I choose not to vaccinate my child?

Yes, but we wouldn't advise it. Choosing not to vaccinate is not a risk-free choice. It's choosing to expose your child to potentially serious infection. It's also choosing to expose other children in your community to serious, preventable diseases. And if you think your child will be safe because everyone else vaccinates his or her kids, you'd be wrong (and very selfish, we might add). You can also choose not to stop at a stop sign, but we wouldn't advise it!

■ REALITY CHECK

Vaccine requirements for school entry vary by state. There is no one consistent policy. All 50 states allow vaccine exemptions for medical reasons, 47 states allow exemptions for religious reasons, and about 21 states allow exemptions for philosophical reasons.⁴ After the 2015 measles outbreak, several state legislatures are reconsidering their existing laws for vaccine exemptions. Limiting the exemptions improves vaccination rates and thus protects more children.

I've heard that getting a disease provides immunity forever and vaccinations might not provide lifelong protection. Wouldn't it be better to get the disease? Isn't that a more "natural" way of creating immunity?

No. The diseases we prevent by vaccination are not minor illnesses (this includes chickenpox). For instance, would you rather have your child get meningitis and die or get the vaccine? Getting chickenpox or any other disease the "natural way" is a much greater health risk without any significant benefit. And just think of the discomfort, pain and perhaps serious injury that come with getting any of these diseases.

It is true that some vaccinations require a booster dose to keep antibody levels high. That is why we need a tetanus booster every ten years.

What would happen if we stopped using vaccinations?

That's an easy one. The diseases would come back.

Vaccinations keep us from getting sick from these infections. But all of the infections we protect against are alive and well in our world. As of today, the only disease we have completely eliminated is smallpox. And when it was eliminated, we stopped vaccinating for it.

Anyway, it's a simple fact: when immunization rates drop, epidemics occur. Just look at states with lower immunization rates – their rates of pertussis (whooping cough) are twice the number seen in states with higher percentages of immunization rates. Children whose parents opt out of vaccines face a 23x greater risk of getting whooping cough.⁵ In the 2015 measles outbreak, most cases occurred in communities with measles immunization rates below 80%.

■ REALITY CHECK

In 1990, low immunization rates led to a measles epidemic of 55,000 cases and over 100 preventable deaths in the U.S. The U.S. saw a measles epidemic again in 2008 – over 90% of these cases were unvaccinated children, two-thirds of which were by parental choice. But a few of the cases were infants who were too young to be vaccinated (and exposed to an infected child in the doctor's waiting room). You would think we would have learned our lesson, but 2015 was another banner year for measles. This serves as a reminder that vaccine-preventable diseases have not disappeared.

What are the typical side effects of vaccination?

Fever, fussiness, redness, or lump at the site of the injection.

Inactivated vaccines cause an immediate immune response. The body mounts a response to the foreign invader as if it were being infected. The result, typically, is a fever within 24 hours of vaccination. Babies sometimes feel like they are coming down with a cold or flu (body aches, pains). Some babies prefer to sleep through the experience; some choose to tell you how they feel (fussiness, crying). All of these symptoms resolve within 24 to 48 hours of vaccination.

Live attenuated vaccines (MMR, Varicella) cause a delayed immune response. This occurs one to four weeks after the vaccination is given. Long after the doctor's visit, your child may wake up one morning and have a fever.

This may be accompanied by a rash that looks like measles (pimples) or chickenpox (clear, fluid-filled pimples). The rash can sometimes be dramatic. Both the fever and the rash tell you that your baby is forming an immune response to the vaccination. Babies are not contagious and aren't too bothered by the rash. You don't need to call your doctor. This reaction is expected.

Redness at the injection site is common. In particular, the fifth booster dose of the DTaP (at age five years) can cause a pretty dramatic area of redness. No worries. We do get quite a few phone calls about it, though!

A firm lump may develop at the injection site if some of the fat in the arm/leg gets nicked as the needle goes into the muscle. This is called fat necrosis. It usually goes away within six to eight weeks. It doesn't hurt.

Red flag! If your baby has a fever more than 72 hours after being vaccinated, it's not from the vaccination. You need to call your doctor. The only exceptions are the MMR and chickenpox vaccines, which typically cause a fever one to four weeks afterwards.

■ REALITY CHECK

To help reduce fever and discomfort from shots, it's okay to give your baby acetaminophen (Tylenol) as long as you wait at least four hours after vaccinations are given. The dose is not listed on the package. It says to "consult a doctor." That's because doctors don't want you giving this medicine to a baby three months or younger with a fever without checking in first. Other than with shots, you need to call your doctor about fevers in this age group.

What are the worst reactions to vaccination?

These are called adverse reactions. This is the equivalent of an allergic reaction to a medication – and fortunately, they are all quite rare. With each generation of newer vaccinations, the risk of serious reactions is almost eliminated.

Adverse reactions include:

1. Death.
2. Anaphylactic reaction.
3. Encephalitis.
4. Fever-related seizure (convulsions).

Both the CDC and FDA keep close tabs on adverse reactions to vaccines via a Vaccine Adverse Event Reporting System (VAERS). Both doctors and patient families may submit a VAERS form if any adverse reaction occurs.

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Keep in mind that medical illness reports do not prove an association of a particular illness with a specific vaccination. The job of both the CDC and FDA is to review each report that occurs and see if there is a pattern of subsequent illness after vaccination. VAERS data is publicly available at vaers.hhs.gov. To report a possible reaction, you can download a form at the same site. There is also a Clinical Immunization Safety Assessment Project comprised of six U.S. academic medical centers that evaluates adverse reactions to vaccines.

While we would be remiss if we didn't tell you that vaccinations have some risks associated with them, we want you to remember that the risk of adverse reaction is significantly lower than leaving your baby unprotected.

In 1988, recognizing that there are rare, serious reactions that occur as a result of vaccinating children, the U.S. Department of Health and Human Services created the Vaccine Injury Compensation Program. This program attempts to determine whether adverse reactions from vaccines are responsible for injuries or death and then to provide the victim with compensation. Since 1988 there have been about 15,000 claimants. Considering there are four million babies born each year and most have been vaccinated, the odds of an injury are staggeringly tiny.

Another statistic to mull over: 1.9 billion doses of vaccine were given in the U.S. from 1991 to 2001. Only 2,281 cases of allergic reactions were reported.⁶ (Compare that statistic to one in 50 adults who have a food allergy!)

We agree that an adverse reaction only has to happen to one child for it to be heartbreaking. But if we look at the big picture, we can point to the millions of children who might have experienced illness, chronic disability, and death if diseases like smallpox or polio were not controlled by vaccinations.

Are there any reasons I should not vaccinate my child?

There are several very specific medical reasons to discontinue or hold off on certain vaccinations. These include:

1. Patient or family member is immune-compromised.
2. Patient had disease (for example, if you've had chickenpox, you don't need the vaccine).
3. Patient has encephalitis or degenerative brain disorder.
4. Patient has allergy to vaccine or to an additive in the vaccine.

If your baby has a food allergy to eggs or gelatin, or an allergy to antibiotics (such as neomycin, streptomycin, polymyxin B), notify your doctor before any vaccinations are given. Several vaccines are grown in chick embryo cells and therefore contain a small amount of egg protein: flu vaccine, MMR, rabies, and yellow fever vaccine. The MMR vaccine also includes gelatin.

Rabies, MMR, chickenpox, and polio vaccines include several different kinds of antibiotics to prevent contamination of the vaccine itself. Check with your doctor if your child is allergic to any antibiotics.

While there is a scant amount of egg protein in the MMR vaccine, it is still safe to give to a person with an egg allergy in your pediatrician's office. And, although the flu vaccine contains trace amounts of egg protein, beginning with the 2016–17 vaccination season, it is recommended that patients with an egg allergy of any severity can safely be vaccinated with any influenza vaccine product.

Who keeps a record of my child's vaccinations?

You and your doctor. Your doctor keeps a record of vaccinations in your child's records. And some states have an immunization registry that also keeps records of vaccinations.

But ultimately, YOU need to have a copy of these in your personal medical record file. You will need proof of vaccinations for many things. Any childcare or school program requires this information. Summer camps and athletic programs want the records, too. If your child becomes a healthcare professional, joins the military, or is a food handler, he will also need this information.

► HELPFUL HINT

It's a good idea to have a medical passport for your child. This should include an immunization record, growth chart, list of medical problems, list of surgeries, drug allergies, and name and dosage of any medications that are used regularly (such as asthma medicine). Some medical practices now offer a patient portal that allows you to keep track of your own records. If so, we encourage you to take advantage of it!

How do I know when my child needs booster shots?

Your doctor will remind you at each well child visit. We wish pediatricians were more like dentists or veterinarians, who long ago figured out how to send out reminders of needed visits. Sadly, only a minority of pediatric practices have electronic reminder or recall systems. Most do not usually send out reminder cards to let you know your child is due for shots. What most practices do is provide the schedule in an information packet at your child's first visit. Your doctor will tell you at each well check when to return. This system works pretty well unless you start missing well-child visits. Then your child gets behind on his vaccination series. You can try to catch your child up on shots when he is in for a sick visit if this happens.

■ REALITY CHECK

Wanted: A National Immunization Registry – There is no uniform system of tracking immunization status and sending reminder cards to patients' families. One solution: a national immunization registry. Advocates of this plan feel it will improve our country's immunization rates. Those opposed to the plan think it invades personal privacy and creates a government health care tracking system. So, like most governmental decisions, it may take years to resolve.

What vaccines are required and which ones are optional?

The answer varies state to state. It also varies depending on the frequency of disease in particular counties within a state. We have provided a table of the most recent requirements in the U.S. on our website, Baby411.com (click on "Bonus Material").

Can I take my baby out before she gets her first set of shots?

Yes, just be smart about it. Pediatricians usually recommend limiting human contact with babies under four weeks of life. Why? Because if your newborn gets any fever (of 100.4 or greater), that is an automatic

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ticket to the hospital for two days. Even if your baby has the cold that the rest of the household has, we still need to rule out a serious infection.

That said, you aren't quarantined, but use discretion when planning your outings. In cold and flu season, avoid crowded places for the first three months of life.

With respect to an unvaccinated baby, the biggest threat these days is whooping cough. Whooping cough is spread by cough and sneeze droplets of an infected person. Babies get a series of four shots over the first two years of life to protect them from whooping cough. To keep everyone inside that long is crazy! But being cautious until she gets her first shot at two months isn't a bad idea.

I have a friend who does not vaccinate her child. Is it okay for our babies to play together?

Awkward, right? Well, the most politically correct thing to do would be cancel a playdate when either child is ill. This is not a foolproof solution, however. A person with measles, for instance, is contagious for three to four days before the rash erupts.

If you want to make a statement (and potentially lose the friendship), be honest and explain to her that you feel uncomfortable with your kids being together – it may give her pause to consider her choices.

Controversies

Let's face it, controversy drives TV ratings and web traffic. No one is interested in hearing about things that work as they should – and vaccines are a good example. Vaccines have been a hot topic for the last decade or so. Unfortunately, rare adverse events and theoretical concerns tend to make more headlines than the remarkable success story of vaccinations. These problems are then seized on by vaccine opponents and spread online through the web like a, well, virus.

So, let's address this head on. Here are the controversies you might hear about with vaccines:

I've heard that the MMR vaccine might cause autism. Is this true?

No. Parents also hear that vaccinations cause multiple sclerosis, diabetes, asthma, and AIDS. None of these are caused by vaccination. The government operates a safety monitoring system (VAERS, FDA, CDC) – watching for any possible adverse effects from vaccines. No one wants to increase autism rates.

One small case report of only eight patients in 1998 led a research group to feel that the combination MMR vaccine might cause autism.⁷ But don't try to find the article online because the journal that published the article later retracted it when a former member of the research lab revealed that the data reported in the study was fabricated! Twelve years later, the lead author lost his license to practice medicine in England and was accused of fraud. The whole thing was a hoax.

Before this came to light, several reputable scientists tried to replicate the findings of this now discredited researcher. No one ever could – and now we know why!

Unfortunately, frightened parents chose to skip the MMR vaccine and measles epidemics occurred both in England and the U.S. as a result of these unfounded claims.

Bottom line: Don't base health decisions for your child on one research study or what the media reports! Talk to your child's doctor about any vaccine safety concerns.

If the MMR vaccine doesn't cause autism, why is the diagnosis made around the same time as the vaccination?

One of the criteria used to make a diagnosis of autism is a language delay. Because children do not have significant expressive language under a year of age, doctors have to wait until 15 to 18 months to confirm a language delay and make the diagnosis. That's about the same time as the MMR vaccination, which leads some parents to wonder about autism and vaccination.

I've heard there is mercury preservative in the vaccines. Is this true?

Not anymore. It was removed from all required childhood vaccines by 2001. This deserves repeating: YOUR baby will not be getting required vaccines that contain mercury (thimerosal) as a preservative.

Despite the fact that vaccines have been mercury preservative-free for over a decade now, speculation persists about vaccines previously containing mercury and links to autism. This speculation continues even after the Institute of Medicine (IOM) published a conclusive report in 2004 negating any association between vaccines and autism.⁸ (The IOM spent four years studying both the mercury question and the MMR combo vaccine question and published a series of eight reports on the subject.)

Bottom line: Thimerosal will remain on blogs and anti-vaccine websites forever, but the preservative does not remain in any of the required childhood vaccines that YOUR baby will get.

Because of ongoing concerns, the next two Q&As should provide you with more than you ever wanted to know about thimerosal.

I heard that I should still ask my doctor if the vaccines for my baby are thimerosal-free. What do you suggest?

We think you should ask as many questions as you need to feel comfortable. Remember that since 2001, the entire childhood vaccine series went thimerosal (mercury) preservative-free. If your doctor has a 2001 vintage vaccine vial sitting on the shelf (which would be long expired by now), I'd have bigger concerns about your doc than his vaccine supply.

Here is the specific rule regarding thimerosal use in vaccines: the FDA requires manufacturers of routine childhood immunizations to no longer use thimerosal as a preservative. This rule does NOT apply to flu vaccine because (technically) this vaccination is optional (except in New Jersey) and not "routine."

Why does flu vaccine need thimerosal or any other preservative? First, understand the flu vaccine is reformulated every year to reflect the anticipated flu strains. Since millions of doses of flu vaccine are needed every year, the most efficient way to produce the shot is in multi-dose vials, which require a preservative.

Hence, some flu shots (not the flu nasal spray) contain the preservative

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thimerosal. However, there are single-dose preparations of flu vaccine that are mercury preservative-free. These can be given to young children and pregnant women. Ask your doctor for a thimerosal-free flu vaccine if you are concerned.

Even though thimerosal is safe, it would be ideal for all flu vaccines to be thimerosal preservative-free – this would put any concerns to rest. However, the technology just isn't there yet.

What about other vaccines? Do they contain thimerosal? There are four vaccines that use thimerosal in the production process – but it is extracted before the final product is bottled. As such, these vaccines must list that TRACE amounts of thimerosal (less than 0.003mg) may exist in the vaccine. There is probably little or no thimerosal in the finished product, but the manufacturer must declare it.

We have no concerns about these vaccines, but if you are completely freaked out about the thimerosal thing (despite the proof that they are safe), there are other alternatives to these specific vaccines made without any thimerosal: Pediarix (one brand combo of DTaP/HepB/IPV), Engerix-B (one brand of HepB).

The FDA has a chart online that tracks any thimerosal content in vaccines: vaccinesafety.edu/thi-table.htm We have a link to the chart on our website Baby411.com (click on "Links").

FYI: many vaccines such as the combination measles, mumps, and rubella vaccine (MMR) never used thimerosal in the production process or as a preservative.

Does thimerosal cause autism?

No. The Institute of Medicine reached this conclusion in 2004. What proof do we have?

Thimerosal has been removed from vaccines since 2001, but the rates of autism are still skyrocketing. A 2008 survey of autism rates in California confirms that mercury is essentially out and autism rates are still going up. If thimerosal was the cause and it was removed from vaccines seven years ago, autism rates would be going down by now. Why? Because autism spectrum disorders are usually diagnosed by three years of age. By now, any reduction in autism should have been obvious if thimerosal caused the disorder.⁹

Are there other additives in the vaccines?

Yes. And you should know about them.

As we have already discussed, vaccines contain the active ingredients that provide immunity. But there are inactive ingredients that improve potency and prevent contamination. Below is a list of additives and why they are there. These products are present in trace amounts and none have been proven harmful in animals or humans.¹⁰

- **Preservatives:** Prevent vaccine contamination with germs (bacteria, fungus). Example: 2-phenoxyethanol, phenol, (thimerosal, prior to 2001).
- **Adjuvants:** Improve potency/immune response. Example: aluminum salts.
- **Additives:** Prevent vaccine deterioration and sticking to the side of the vial. Examples: gelatin, albumin, sucrose, lactose, MSG, glycine.
- **Residuals:** Remains of vaccine production process. Examples: formaldehyde, antibiotics (neomycin), egg protein, yeast protein.

See our website (Baby411.com, click on "Bonus Material") for a list of ingredients for the routine childhood vaccination series.

■ REALITY CHECK

If vaccines contain ingredients like aluminum or formaldehyde, wouldn't it be better if vaccine makers got rid of these additives?

Shouldn't vaccines be "greener"?

This is a red herring argument against vaccines – current vaccines are safe, even with tiny/trace amounts of preservatives or additives like aluminum.

And your baby is exposed to many of these ingredients every day... simply by eating or breathing.

Why is formaldehyde in vaccines?

Small amounts of formaldehyde are used to sterilize the vaccine fluid so your child doesn't get something like flesh-eating strep bacteria when he gets his shots.

We know when you think of formaldehyde, that ever-present smell wafting from the anatomy lab in high school comes to mind. But what you probably don't know is that formaldehyde is also a naturally occurring substance in your body. And if you use baby shampoo, paper towels, or mascara, or have carpeting in your home, you've been exposed to formaldehyde. The small amount used in vaccines is not a health concern.¹¹

Is it true that anti-freeze is used in vaccines?

No. There is a chemical used in some vaccines (called polyethylene glycol) that is also found in antifreeze, as well as toothpaste, lubricant eyedrops, and various skin care creams. Polyethylene glycol is used in the production process to purify vaccines.

Is it safer to delay vaccines or use an alternative vaccination schedule?

Easy answer: no. The CDC publishes a recommended vaccine schedule for American children. Many, many doctors, scientists, and researchers work together with the CDC to decide what is the best timing to give shots. The goal: protect babies as soon as it is safe and effective to do so. This schedule was not created out of thin air.

Between anti-vaccine activists shouting "too many shots, too soon" and Dr. Bob Sears hawking his book, new parents wonder if it would somehow be safer to wait on shots altogether or stagger them out on "Dr. Bob's schedule."

Here's a nasty little truth about alternative vaccination schedules: they are all fantasy. There is absolutely no research that says delaying certain shots is safer. Dr. Bob is making up "Dr. Bob's Schedule" all by himself. He even admits that. In an interview with iVillage, he commented, "My schedule doesn't have any research behind it. No one has ever studied a big group of kids using my schedule to determine if it's safe or if it has any benefits."

A 2010 study actually did study children whose vaccinations were delayed and found there was absolutely no difference in their development to children who'd received their shots on time (Smith). A 2013 study showed further evidence that giving numerous shots at the same

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time and giving the recommended vaccination schedule has no impact on a child's risk of autism.¹²

I'd much rather follow a schedule that has been extensively researched for both safety and effectiveness by experts in the field of infectious diseases.

What we do know about alternative vaccination schedules is that delaying shots is playing Russian Roulette with your child. The simple truth is that you are leaving your child unprotected, at a time when she is the most vulnerable.

We realize that parents who choose to delay or opt out on vaccines are not bad parents. They are scared parents. What we are trying to help you realize is that the fear you should have is for the diseases that vaccines prevent.

If I want to do a staggered vaccination schedule, how should I do it?

I suggest setting up a consultation with your own pediatrician to discuss what both of you feel comfortable with doing. Remember, the ultimate goal is to have your child vaccinated in a timely manner.

With the 2015 measles outbreak on everyone's minds, more pediatricians are increasingly adamant about protecting their littlest patients. Many refuse to deviate from the recommended schedule just to appease a nervous parent. It may be difficult to find a board-certified pediatrician willing to modify or delay shots. It's our job to protect kids. Following the recommended schedule is the best way to do that.

How do I know that the CDC and FDA are on "our" side?

Ah, the government conspiracy theory – the belief by some that the government is part of a vast conspiracy to hurt children with bad vaccines...and enrich pharmaceutical makers who make vaccines.

Yes, years ago, some members of vaccine advisory committees had ties with vaccine producers. These people were invited to the table because they brought a wealth of knowledge with them (example: vaccine research scientists).

Today, no one working for the vaccine watchdogs (CDC, FDA, AAP, ACIP, or AAFP) receives any grant or research money from pharmaceutical companies. So there is no real or perceived financial incentive to allow a bad vaccine to stay on the market. If there is concern about a vaccine, it will be pulled from the market immediately.

To further ensure unbiased recommendations, the National Immunization Program (NIP) and the Vaccine Injury Compensation Program (VICP) parted ways in 2005 so there would be no perceived "conflict of interest."

Here is another consideration: why would these groups want our nation's children to suffer chronic illness, pain, or even death? Think about it. It is in nobody's interest to increase infant morbidity and mortality rates.

► HELPFUL HINTS – Where to get more information

Our advice: don't type in "vaccinations" in a Google search. You will end up with inaccurate information from concerned groups who do a great job of creating parental anxiety. The following sites will provide accurate information:

- Centers for Disease Control and Prevention: www.cdc.gov/vaccines/parents, (800) CDC-INFO or (800) 232-4636
- American Academy of Pediatrics: www.aap.org/immunization, (800) 433-9016
- Immunization Action Coalition at www.immunize.org and www.vaccineinformation.org
- Vaccine Education Center, Children's Hospital of Philadelphia www.vaccine.chop.edu

Here is an excellent reference book written for parents: *Vaccines and Your Child. Separating Fact from Fiction*. Offit, P. and Moser C. New York: Columbia University Press. 2011.

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Information About Newborn Circumcision

Circumcision surgically removes the foreskin, the skin that covers the head of the penis. We prefer to do circumcisions in our office. We will perform this procedure in the first two weeks of life. This will be scheduled when you come into the clinic for your baby's first visit. We recommend that the decision to circumcise is best made by parents in consultation with their pediatric provider.

Reasons you may choose circumcision:

Medical benefits include a lower risk of:

- Acquiring HIV
- Sexually transmitted infections
- Urinary tract infections
- Cancer of the penis
- Foreskin infections

Other reasons:

Hygiene is easier. Also, some people may have social, religious or cultural reasons.

Reasons you may not choose circumcision:

- Fear of the risks: complications are rare but may include bleeding, infection, cutting the foreskin too short or too long and improper healing.
- Belief that the foreskin is needed.
- Belief that proper hygiene can lower health risk.
- Social, religious or cultural reasons

Pain control during and after circumcision:

- Penile block – numbing medicine is injected around the penis before the procedure.
- Small amount of oral sucrose are placed on the infant's tongue to reduce procedural pain.
- Acetaminophen (Tylenol) is given by mouth for pain control.
- Breastfeeding babies may be comforted at mother's breast after the procedure is complete.

If you have questions, please talk with your doctor.



Vitamin D supplementation for infants

What is vitamin D?

Vitamin D is an essential nutrient required for the absorption and use of calcium in our bodies and supports the growth and maintenance of strong bones. Children who get too little Vitamin D may develop soft, thin and brittle bones, a condition known as Rickets. Vitamin D also helps the body to function well by supporting our muscles, nerves and immune system.

How do we get vitamin D?

Our bodies make vitamin D when direct sunlight hits our skin. It is also available in small amounts from foods we eat. Since sun exposure isn't recommended for babies, supplements may be needed to meet your infant's daily Vitamin D requirement.

So, how much Vitamin D does my infant need?

The American Academy of Pediatrics recommends a daily Vitamin D supplement of 400 IU (international units). This should be started soon after birth and continued through the first year of life for babies receiving all breastmilk or partial amounts of breastmilk. If your baby is drinking all formula, please discuss the need for additional Vitamin D with your infant's pediatrician. Drops can be purchased at your local pharmacy, Target, Walmart or from Amazon.

Vitamin D options (always read the label carefully for dosing):

- **Infant concentrated vitamin D drops ("D Drops"):** The dose is a *single drop* (not a dropper full) once daily. You can put this drop on a pacifier, a clean finger or if breastfeeding, on mother's nipple. Due to the concentration of these drops, follow the directions carefully and store them out of children's reach, to avoid overdosing. This volume can be easier to give to the breastfed infant.
- **Infant Liquid Vitamin D** – volume to give varies by brand but may range from 0.25 mL – 1 mL. This can be given directly to the infant or if baby is being fed by bottle, can be added to a small volume of breastmilk or formula and then fed to your baby.

Another option for a baby that is breastfed or receiving all breastmilk:

- **Mother may take 6400 IU per day.** Recent research has determined that a maternal dose of 6400 IU per day will deliver 400 IU of Vitamin D to her infant.



Recommended Websites for Expectant and New Parents

As a health care provider, we want to make sure you have access to a variety of information regarding pediatrics and the health care needs of your children. Following are several website addresses that may be of interest to you. Please remember these sites are intended to provide information and education and should not be considered a substitute for medical treatment and advice. If you'd like more information on any of the topics you see, or have questions or immediate medical concerns, please call Roseville at 651-645-4693 or Woodbury at (651) 738-0470 .

www.healthychildren.org

HealthyChildren.org is the only parenting website backed by 67,000 pediatricians committed to the attainment of optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults. Whether you're looking for general information related to child health or for more specific guidance on parenting issues, you've come to the right place.

www.childrensmn.org

This is the web site of Children's Hospitals and Clinics, our local children's hospitals in St. Paul and Minneapolis. Children's Minnesota's mission is: We champion the health needs of children and families. We are committed to improving children's health by providing the highest-quality, family-centered care, advanced through research and education.

www.childrenshealthnetwork.org

Children's Health Network (CHN) is a clinically integrated network consisting of independent practices and Children's Minnesota, and has been the most complete pediatric care system in the Twin Cities metropolitan area for over twenty (20) years. Approximately 200 primary care pediatricians and nurse practitioners, as well as over 500 subspecialty physicians have helped to build and evolve our organization into a clinically integrated network.

www.aap.org

The American Academy of Pediatrics is a frequent source of information for pediatricians nationwide. The site features a keyword search for topics of interest. There is information on immunizations, safety, current "hot topics" in children's healthcare, and a link to a bookstore for AAP parent educational materials.

www.cdc.gov

The Center for Disease Control site provides information about diseases, vaccination, traveling, current outbreaks, rumors and hoaxes.

www.poison.org

The HCMC Poison Control Center website is an excellent site for poison control issues. It features a poison safety guide, plant guide, and a safety checklist for common household poisonings.

www.buckleupkids.state.mn.us

The MN Child Passenger Safety Program website is dedicated to child passenger safety. It also shows how to install/secure safety seats, gives helpful guidelines for purchase, posts recall/safety notices, and provides tips for buying car seats for children with special needs.

www.gillettechildrens.org

Gillette Children's Specialty Healthcare is an internationally recognized medical facility specializing in the treatment of children, adolescents and young adults with disabilities. Gillette is the forefront of medical technology, treatment, education, and research for children with disabilities.

www.vaccinateyourbaby.org

The recent trend of delaying or skipping vaccines has put children across the country at risk for diseases like Hib (Haemophilus influenzae type b), whooping cough and measles. Learn why immunizing your child on time, every time is the right choice.

www.chop.edu/centers-programs/vaccine-education-center

The Vaccine Education Center at Children's Hospital of Philadelphia provides complete, up-to-date and reliable information about vaccines to parents and healthcare professionals. They are a member of the World Health Organization's (WHO) Vaccine Safety Net because their website meets the criteria for credibility and content as defined by the Global Advisory Committee on Vaccine Safety.

Recommended Books for Expectant and New Parents

“Heading Home with Your Newborn: From Birth to Reality”

By Laura A. Jana, MD, FAAP and Jennifer Shu, MD, FAAP

“Caring for Your Baby and Young Child: Birth to Age 5”

American Academy of Pediatrics; Steven P. Shelove, MD, MS, FAAP, Editor in Chief, and Robert E. Hannemann, MD, FAAP

“Your Baby’s First Year”

American Academy of Pediatrics; Steven P. Shelove, MD, MS, FAAP, Editor in Chief, and Robert E. Hannemann, MD, FAAP

“What to Expect the First Year”

By Heidi Murkoff, Sandee Hathaway, and Arlene Eisenberg

“American Academy of Pediatrics Guide to Your Child’s Sleep: Birth through Adolescence”

American Academy of Pediatrics; Inc. D.S.H. Publishing

“New Mother’s Guide to Breastfeeding”

American Academy of Pediatrics; Joan Younger Meek, MD, MS, RD, FAAP, IBCLC, Editor in Chief

“The Womanly Art of Breastfeeding”

La Leche League

“The Nursing Mother’s Companion”

By Kathleen Huggins, Ruth A. Lawrence

“Vaccines: What Every Parent Should Know”

By Paul Offit, MD and Luis Bell, MD

“Immunizations & Infectious Diseases: An Informed Parent’s Guide”

American Academy of Pediatrics; Margaret C. Fisher, MD, FAAP, Editor in Chief

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