NATIVE BOOST

NORTHWEST PORTLAND AREA INDIAN HEALTH BOARD

Parents' Guide to Children's Vaccines

Welcome!

On behalf of the Northwest Portland Area Indian Health Board (NPAIHB), we invite you to use this guide to understand more about childhood vaccines. This guide was created to support parents in Tribal communities utilizing lessons learned from our Boost Oregon partners and experiences relayed by Northwest Tribes.

It is the intention of the authors to provide a holistic and culturally adapted way of understanding vaccines and increasing vaccine confidence. We thank our Tribal community reviewers, our staff, and Boost Oregon.

Laura Platero, (Navajo), JD
Executive Director,
NPAIHB

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Acknowledgments

This guide was adapted from the Boost Oregon Parent Guide. The project was supported by and adapted with inputs from Tribal communities across the Pacific Northwest. With deep appreciation for the guidance and wisdom from those who serve in Indian Country, this guide is offered for those who wish to advance the health and wellbeing of all.

Cultural Adaptation Process for Native Boost Provider Guide:
The Native Boost project through the Northwest Portland Area Indian Health Board (NPAIHB) convened a Tribal Advisory Committee on Immunizations (TACI) of Tribal members from Oregon, Idaho, and Washington states to advise and steer a cultural adaptation of the Boost Oregon Provider Guide to use in American Indian/Alaskan Native (AI/AN) communities. This committee represented both urban Native communities and those Tribes on reservation. Additional input was gratefully accepted from non-Native allies who have been serving for decades in healthcare settings and across Indian Country. We are truly thankful for the contributions of all who make this work possible every day.

Those listed below contributed to the adaptation of this guide:
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The original Boost Oregon parent guide is the result of a community-wide effort. Joel Amundson, M.D., and Nadine Gartner are the primary authors. Gary Ashwal, Paul Cieslak, M.D., Alison Dent, Stacy Matthews, Michele Rossolo, and David Solondz, M.D., provided invaluable input. Many thanks to the parent volunteers who contributed their personal stories to this guide.Diana Tung designed the guide and created original graphics for it. Bob Land proofread the guide. Generous grants from the Juan Young Trust, Oregon Immunization Program, and Spirit Mountain Community Foundation made these guides a reality.

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To download an electronic copy of this guide,
please visit https://www.npaihb.org/native-boost/.

For more information, please contact Native Boost at npaihb@npaihb.org and Boost Oregon at info@boostoregon.org.

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Introduction

The original Boost Oregon parent guide was created to help parents understand more about childhood vaccinations. A need was identified to combat some of the widespread vaccination misinformation campaigns that were started and spread rapidly throughout communities. Parents found themselves struggling to identify truthful and transparent information on childhood vaccines and Nadine Gartner, a mom who also found herself surrounded by confusing information, started Boost Oregon to help other families and providers understand and communicate about vaccines. Boost Oregon answers common questions parents have and helps providers tailor messages that resonate with families.

The Native Boost guide builds upon that important work and expands into needs specific to Indian Country. Although this guide is tailored to an Indigenous audience, we feel the guiding themes of trust-building, story-telling, transparency, and deep listening will be meaningful to all audiences.

Guiding Values

Cultural values, stories, and traditions have inspired the creation of this guide. Connection, community, intergenerational wisdom, and caring for all beings are the foundation of all work we offer to those across Indian Country and beyond. We all are connected and this work has power to transform in healing ways when we lean on our cultural values.

In addition to this guide, Native Boost website https://www.npaihb.org/native-boost/ and Boost Oregon's website—www.boostoregon.org—offer information, resources, and community workshops that will aid you and your child on the journey to good health. Get answers to your vaccination concerns, learn other parents' stories, and connect with a community who cares about the health and well-being of all children. As an organization led by parents like you, Boost Oregon aims to give every child the best shot at a healthy life.

About vaccines

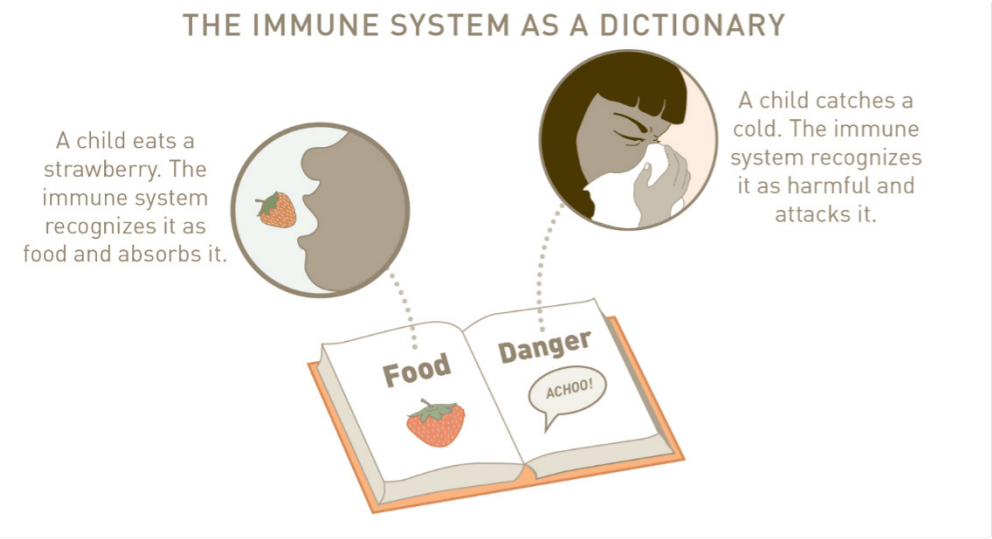
The goal of vaccines is to greatly reduce the complications caused by childhood diseases. Vaccines prepare our bodies to fight against harmful diseases that we are likely to encounter in the world. Vaccines also help eradicate diseases like smallpox and soon, polio.

To understand how vaccines work, imagine your immune system is a dictionary. For every substance your body encounters, the immune system records a definition and an action. The definition is the description of the substance. The action tells the body what to do with the substance, like absorb it or attack it.

Before your body knows what to do with a substance, the body must first identify it. **Vaccines help your body identify** what infections look like so the immune system can use its own natural defenses to decrease the chance that these infections can take hold.

For example, imagine a child eating a strawberry. It is important that the immune system identifies the strawberry as food (instead of a threat) and absorbs it (rather than fights it). Now imagine a child who catches a cold. It is important that the immune system identifies the cold as harmful and attacks it.

Vaccines don't change how your body acts when it encounters something; they just help your body identify what it encountered and distinguish between things that are harmful from things that are not.



The process of identifying and responding to a threat such as measles, pertussis (whooping cough), or rotavirus takes longer if your child is unvaccinated. For unvaccinated children, by the time the definition and action are recorded, the disease has the potential to cause harm.

Vaccines teach our immune systems to fight diseases that otherwise would take them too long to recognize as harmful.

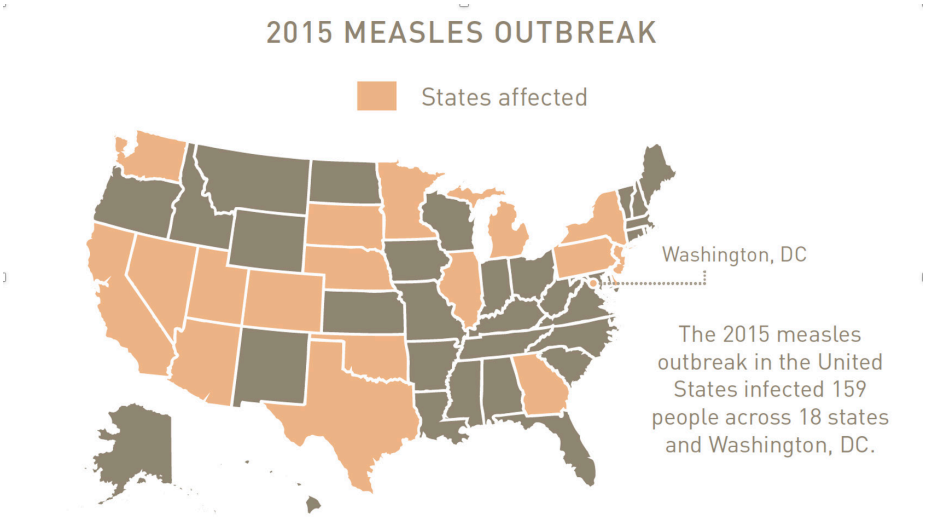
A vaccine for a particular disease may contain deactivated bacteria from that disease or a deactivated or weakened live virus. Because it is not the active disease, the child's immune system can take its time defining what the disease looks like and how to attack it. Then when encountering the live disease for the first time, the child's immune system will be ready to fight it immediately and prevent illness that could become serious or even cause permanent harm.

Vaccines are Still necessary

Although we may not see many vaccine-preventable diseases in Oregon or elsewhere in the United States, it does not mean that these diseases have been eradicated.

Vaccines have worked so successfully that we have seen a decrease of these diseases in the United States.

When vaccination rates decrease however, diseases become more common in our communities again. For instance, the measles outbreaks across the United States in 2014 and 2015 occurred largely in unvaccinated persons. Measles infections can cause extremely serious side effects which are preventable with use of vaccines.



To understand this more, imagine a community garden filled with healthy vegetables and beautiful flowers.

In addition to watering plants and mulching soil, volunteers must weed regularly. If too many volunteers show up and remove all weeds, they may think no more volunteers are necessary. Without regular weeding however, weeds grow uncontrollably and threaten the vegetables and flowers. Then the garden needs to bring back its weeding volunteers.

Going back and forth with too many or too few volunteers, the garden gets caught in a never-ending cycle. The better alternative would be to determine
the right number of volunteers needed to keep weeds at an acceptable level. Vaccines work in much the same way.

If we stop vaccinating because we don't see a particular disease in our community, that disease will return.

I know that most people in Oregon have not seen the horror that diseases can do. That is not just because we are lucky. That is because modern medicine has developed vaccines to prevent the spread and the damage of those disease. Recently while on a vacation, my family witnessed a terrible car accident. One car had flipped over several times and landed on its roof. In the other car, a passenger was stuck between his steering wheel and his seat back. As the first responders, we kept the victims alert and talking until the paramedics arrived. Every single one of them was wearing a seat belt. Every single one of them walked away with only minor injuries.

Their outcome was not luck; it was the result of the science behind seat belts, air bags, and crumple zones, technology that allows us to live longer, healthier lives and to survive the things that killed and maimed people in the past.

Similarly, I think of vaccines as life-saving technology. My children and myself will be out in the world, and there is always a chance that we will be exposed to a disease that could hurt or kill us. But, thanks to the modern technology of vaccines, we have a chance to walk away from them, unharmed.

Leah
Portland, OR

Vaccines are Safe and Effective

Vaccines are some of the most tested and closely monitored medicines we take. Thousands of hours of research from around the world go into each vaccine to ensure they are safe and effective before they are distributed to the public. Even after they are released for use, vaccines are tested continually and monitored for safety.

To be approved, vaccines must have fewer side effects than harm caused by diseases themselves. There are many ways vaccines can be formulated to make sure they are safe and

effective. Some vaccines may contain a much smaller dose of the bacteria or virus than would be present in the disease itself. Live virus vaccines can be cultured in environments that promote milder strains, making a case of measles feel more like a common cold. By reducing the intensity of a reaction that a disease would cause, a vaccine is far less likely to trigger an unwanted reaction than the disease itself. Vaccines enable your immune system to more accurately and safely distinguish between what is disease and what is your body.

> *When my daughter was about 1 year old, there was a lot of discussion in the media about the safety and potential side effects of vaccines. I became concerned and decided to learn more about the pros and cons of vaccines.*
>
> *In reviewing reputable resources and discussing my concerns with my pediatrician, I found the advantages far outweighed any potential side effects, and the question then became, how could I not vaccinate my child? As any reasonable parent would, we want to protect our children.*
>
> *Vaccines are the best preventable care we have to protect against disease, and I fully welcome and endorse all vaccines now.*

Shona
Ashland, OR

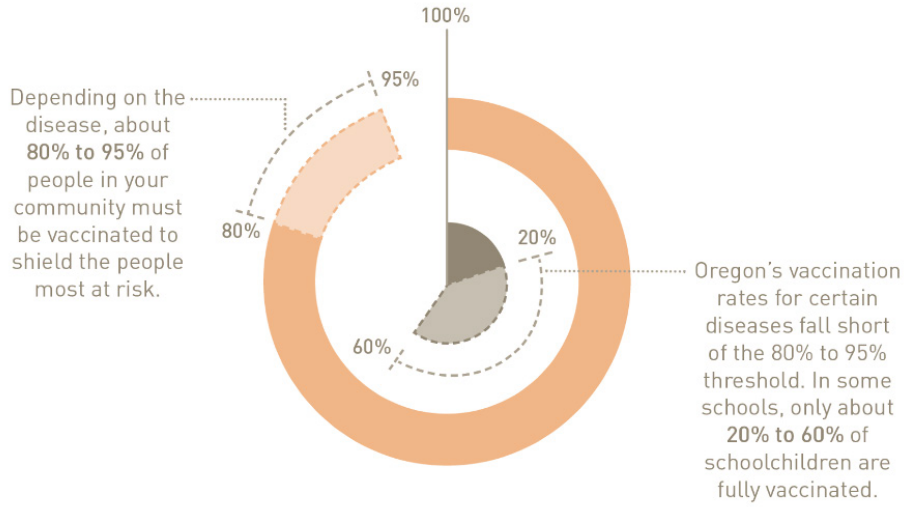
Community Immunity

Community immunity is when the majority of a community is vaccinated and able to protect unvaccinated individuals. Among the unvaccinated are babies too young to be immunized, people with weak immune systems due to disease or medical treatments like chemotherapy, pregnant women, senior citizens, and anyone allergic to a vaccine. Diseases can't spread as easily when most people are immunized and this provides protection to those who are vulnerable.

For diseases like measles and pertussis, about 90% to 95% of people in your community must be vaccinated to shield unvaccinated people most at risk. Oregon's vaccination rates for certain diseases fall short of those thresholds, and some schools have as many as 40% to 80% of children missing vaccines. These low levels put our community at risk.

Vaccinating your child and yourself is a wonderful way to benefit your family's health, as well as the health of the whole community.

ARE ENOUGH PEOPLE VACCINATED IN OUR COMMUNITY?



How to sort through the noise

Opposition to vaccination has existed as long as vaccination itself. It is confusing to sort through the sea of vaccination information that exists online and within our communities. The best way to understand the information is to talk to your child's medical provider who is experienced in children's health. Native Boost and Boost Oregon, can also assist you through community workshops and other resources (https://www.npaihb.org/native-boost/) and (www.boostoregon.org)

As you do your own research about vaccines, keep a few things in mind:[3]

- The information provided should be based on sound scientific study. Legitimate information will be endorsed by groups or institutions dedicated to science, such as professional associations or universities.
- Transparency- A good health website should show who is responsible for the site and a way to contact the webmaster.
- Look through the website to see if most or all of the information is one-sided. Watch for red flags such as websites that exclusively attack vaccines and do not provide data on successes. A reputable source is well-balanced.
- Beware of suggestions of "conspiracies" such as financial incentives for vaccines. As explained later in this guide (see "Aren't Vaccines Just Moneymakers for Pharmaceutical Companies?"), vaccines create very little profit especially compared to profits from pharmaceutical drugs.
- Media attention or celebrity support do not necessarily mean a claim is true. It is important to dig beneath the media attention to see what experts in the field say.

When evaluating a particular claim or study, remember an honest perspective is a balanced one. Legitimate studies will not cherry-pick results or leave out relevant factors or variables. When in doubt, you can turn to your search engine and type: "De-bunk " (insert whatever claim you're reviewing). The results will show what work has been done to demonstrate that false claims are exactly that – false.

I think about a lot of things in how I protect my children. I think about what tools I can offer them, what knowledge can I share with them, and how I can promote their health from a young age including well child check-ups and vaccinations.

Candice
Portland, OR

Can vaccines cause harm?

Like all medical interventions, it is rare but possible for vaccines to cause harm.

Although very rare, certain vaccines may cause an allergic reaction in some people. If you or your child has a known allergy, talk to your medical provider about your concern. In the 1970s there were two vaccines pulled from the market and replaced with safer versions after it was found they made people almost as ill as the diseases themselves. This demonstrates checks and balances are in place to ensure vaccine safety.

It's important to note that no vaccine recommended for use has been found more harmful than the disease.

Vaccines work with your body to train your immune system to fight against harmful diseases. So, what about reports that vaccinated people still get sick? Just as we have seen with the COVID-19 vaccines, it is possible to get the disease after vaccination. Vaccines greatly reduce the severity of illness and prevent hospitalizations and death. So it is possible for a vaccinated person to get sick from an illness they have been vaccinated against, but the illness will be much milder.

Ingredients in Vaccines

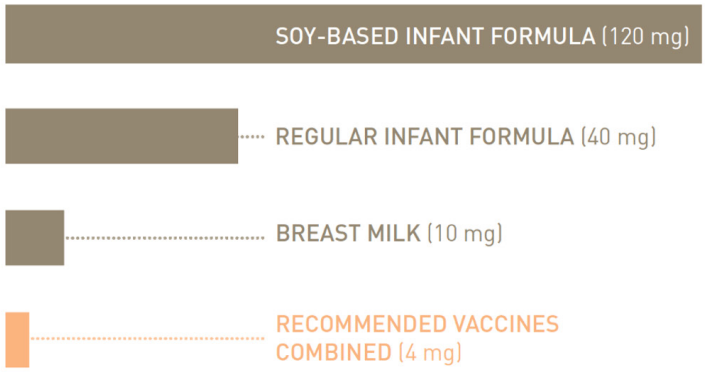
Aluminum is a common and natural metal. Aluminum enhances the immune response to vaccines by allowing for lesser quantities of active ingredients and in some cases, fewer doses.[4] Here are the facts about aluminum:

Aluminum is the most common metal found in nature and is part of our daily environment. It exists in the air we breathe, water we drink, and food we eat. That's why it was chosen for vaccines: our bodies already know how to process it and do so on a regular basis.
The amount of aluminum contained in vaccines is small. In the first six months of life, your baby receives about 4 milligrams of aluminum in getting all of the recommended vaccines – much less than she gets from other sources. During the same period your baby will ingest about 10 milligrams of aluminum if breast/chest fed[5] with human milk, 40 milligrams if fed regular infant formula, and up to 120 milligrams if fed soy-based infant formula.[6]

Researchers have shown that after vaccines are injected the quantity of aluminum detectable in an infant's blood does not change and that about half of the aluminum from vaccines is eliminated from the body within one day.[7]

HOW MUCH ALUMINUM WILL A BABY CONSUME IN THE FIRST 6 MONTHS?

Aluminum is the most common metal found in nature. In the first six months of life, a baby receives about **4 mg** of aluminum if getting all of the recommended vaccines, compared with **120 mg** if a baby is fed soy-based infant formula.



By the late 1990s thimerosal, a mercury-containing compound used as a preservative, was removed from children's vaccines to ease parents' concerns.8

Now, children's vaccines come in single-dose vials that don't need preservatives.

> *I lost my son to bacterial meningitis one day shy of his second birthday. I would give anything for him to have had the vaccine that is currently available.*
>
> ***No child should die from an illness that is preventable.***

Sabrina
Ashland, OR

Can I Space Out My Child's Shots?

The current U.S. vaccine schedule is the product of thoughtful and informed collaboration among specialists in pediatrics, infectious disease, and public health, specifically and only for the benefit of the child.

The vaccine schedule is based on when vaccines are best tolerated, safest, and offer the greatest protection to the child.

Maternal Antibody Protection is Limited

Mothers pass protective antibodies across the placenta to their babies in the weeks before birth. These antibodies stay in the baby for about six months and offer helpful protection for the baby. However, they also have limitations. Antibodies given to the baby from mom form "passive immunity," meaning that those antibodies cannot be remade. "Active immunity," is when baby makes her own antibodies and this is more effective in fighting off disease. Vaccines offer significant protection during this period.

Varying Risks of Infection at Different Ages

Some infections such as pertussis, haemophilus, and pneumococcus infections are much more severe in younger infants. The most important time to protect baby against these infections is early in infancy. The longer a vaccine for these diseases is delayed, the less benefit an infant will receive from the vaccine, so on schedule is the right time.
Vaccine boosters at two, four, and six months build baby's active immunity during this critical period as antibodies from the mother fade away, giving baby a smooth transition to self-protection by the time mother's antibodies are gone.

Best Immune Response from Vaccines

Vaccines are given at the best time for baby's immune system. For some vaccines like measles, young babies do not respond well, so the vaccines are recommended only after 12 months of age. For others such as pneumococcal vaccine, babies are at high risk and respond well as early as 2 months of age so vaccination is recommended to begin at that time. Altering the schedule may result in a greater risk for disease and offers no additional benefit.

Multiple Vaccines at One Visit

Once leaving the sterile environment of the womb children are exposed to trillions of cells of bacteria, viruses, and yeast through the skin, nose, throat, and intestines. By responding to all of the cells at once, baby's immune response prevents organisms from causing serious disease. Billions of immunologic cells **(cells that help the body fight infection)** circulating through the body respond to potential threats. The 14 vaccines found on the childhood schedule contain a total of about 150 immunologic components—a tiny number compared to what baby processes every day.

The entire vaccine schedule even if given all at once would be smaller than what your baby's immune system manages every day.9

"For our first child, we gave him most (not all) of the recommended vaccinations, on a delayed schedule, one at a time. As he grew older and he was more afraid of shots, it became a huge challenge and inconvenience to go back and forth to the doctor.

Due to my exhaustion of schlepping kids to the doctors on multiple occasions, my son›s emotional fear of needles as he grew, and the fact that I had yet to read any current medical evidence that routine vaccine schedules were dangerous (in fact, I started hearing about local outbreaks of preventable diseases in our hometown of Portland, OR), we decided to follow the CDC guidelines for our daughter.

I have cut my doctor trips by more than half, and I also have peace of mind when I let her play and interact with children from all geographic locations, both at home and when we travel."

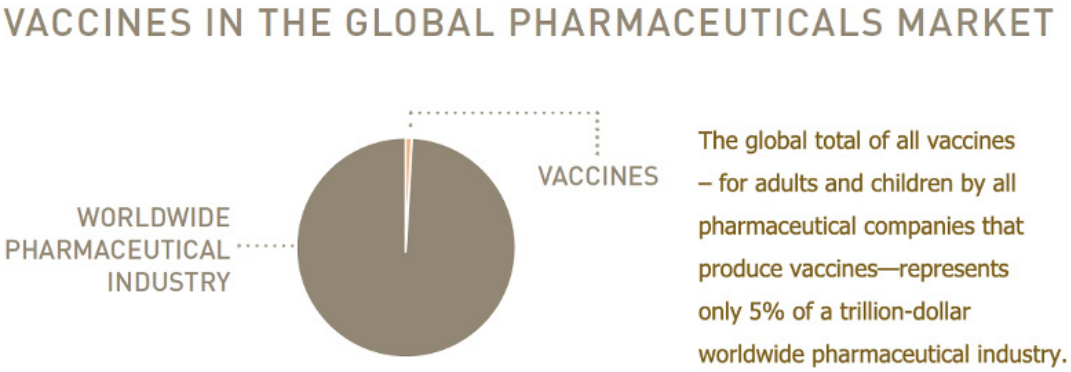
Rachel
Portland, OR

Vaccines are Not Big Moneymakers for Pharmaceutical Companies

A popular myth is that vaccines are simply a way for pharmaceutical companies to make money. In reality, vaccines are not huge profit-makers for pharmaceutical companies. Pharmaceutical companies make the majority of profits by selling drugs that treat diseases.

Compare the cost of one case of measles to the MMR vaccine series. Treating a single case of measles in the hospital averages $14,456 while the MMR vaccine series only costs $165.[10]

The $60 billion vaccine market represents only 5% of worldwide pharmaceutical industry.[11]



Vaccines fit into a Natural Lifestyle

We recognize the importance of traditional foods and plants as medicine that maintain health and wellness. Vaccines are another resource that complements a natural lifestyle and helps to keep us healthy and protects our communities and culture. Vaccines benefit natural health in the following ways:

- Teach our bodies to fight illnesses naturally. Vaccination gives the body tools to build up its own immunity against a particular disease.
- Reduce total pharmaceutical usage. Treatments for vaccine-preventable illnesses could include antibiotics or antivirals. These treatments can have significant side effects, from stomach upset with diarrhea and yeast infections to rashes and liver and kidney complications. Those treatments can also encourage development of treatment resistant superbugs.
- Reduce environmental pollution. Hospitalization or outpatient treatment for vaccine-preventable disease increases the amount of environmental waste from disposable gloves, wipes, needles, and IV bags to name just a few. The amount of garbage, water, and electricity required to sustain a single patient's treatment is astonishing.

Maintaining health by receiving all immunizations will help ensure that your children can go to school and enjoy their favorite activities. Your whole family and community will benefit from happy, healthy children. We have seen the far-reaching effects of the COVID-19 pandemic – long-term illness, social isolation, loss of opportunities, and loss of important parts of our cultures and lives. Already we have witnessed the changes brought about by vaccines—a return to community, cultural activities, school and other important events. Vaccines are life-saving interventions and childhood immunizations are a normal part of maintaining the health and wellbeing of all of our lives.

Vaccines Do Not Cause Autism

As a parent, you may be concerned about the increasing prevalence of autism. Over 100 different studies have looked for a possible connection between vaccines and autism, and none have found evidence of a link. [12] For more information about potential causes of autism, check out the Autism Science Foundation: autismsciencefoundation.org.

> *As a mother who has a daughter with autism, I don't believe that there is enough concrete information to suggest that vaccines could have caused my daughter to have autism. When she was born, before any vaccinations, she would shake her tiny hands in front of her mouth. This was unusual compared to the other babies we were around. This has now evolved into the stemming that she does, which is an indicator for autism and autism spectrum disorders.*
>
> ***I urge everyone to vaccinate their children. I don't ever want to have to say good-bye to my babies and forever regret not doing something that could have saved their lives.***

Amy
Southern Oregon

How to Comfort Your Child Before and After Immunizations

To make the vaccination appointment as comfortable as possible, try some or all of the suggestions below.[13]

Before and during the immunization process:

- Talk to your child on the morning of the appointment and explain simply the events of the day, including the medical visit and receiving their vaccines. Then talk about the next event so your child focuses beyond the vaccination (e.g., "We're going out to the park after!").
- Remind older children that vaccines are part of maintaining a healthy safe lifestyle, just like using car seats and seat belts.

- When it's time to get the injection the most important thing parents can do is remain calm.
- Your child's position during the vaccine administration can make a difference. Try holding your child in a way that's more like being hugged and less like being restrained. Letting an older child remain upright establishes a sense of control and decreases fear.
- Skin-to-skin contact, breast/chest feeding, or pacifiers may soothe your baby during the injection.
- Try helping older children take deep, slow breaths. Focusing on the breath provides a distraction that may calm anxiety and reduce pain.
- Talk to your medical provider about using a numbing agent before the vaccine administration like 4% lidocaine cream (available over-the-counter at most pharmacies). It is applied to the skin and numbs the area so the injection is less painful.

After vaccinations:[14]

- Immediately after the injection try to distract your child with a game, a cartoon, a stuffed animal, or a song. **Don't dwell on the vaccination once it's over. Emphasize what went well and then move on.**
- If your child is fussy after vaccination or develops a fever, you can give acetaminophen (Tylenol) or ibuprofen (Advil) to reduce discomfort. If your child is uncomfortable for more than 24 hours, or the fever reaches a temperature that your medical provider has told you to be concerned about, call your provider.
- If your child's arm or leg is swollen, hot, or red, apply a clean, cool, wet washcloth over the affected area for comfort. If the redness or tenderness increases after 24 hours, call your medical provider.

Conclusion

Thank you for taking the time to learn more about vaccines.

All parents want to make the best decisions for their children's health, and together we can ensure that every child gets the best shot at a healthy life.

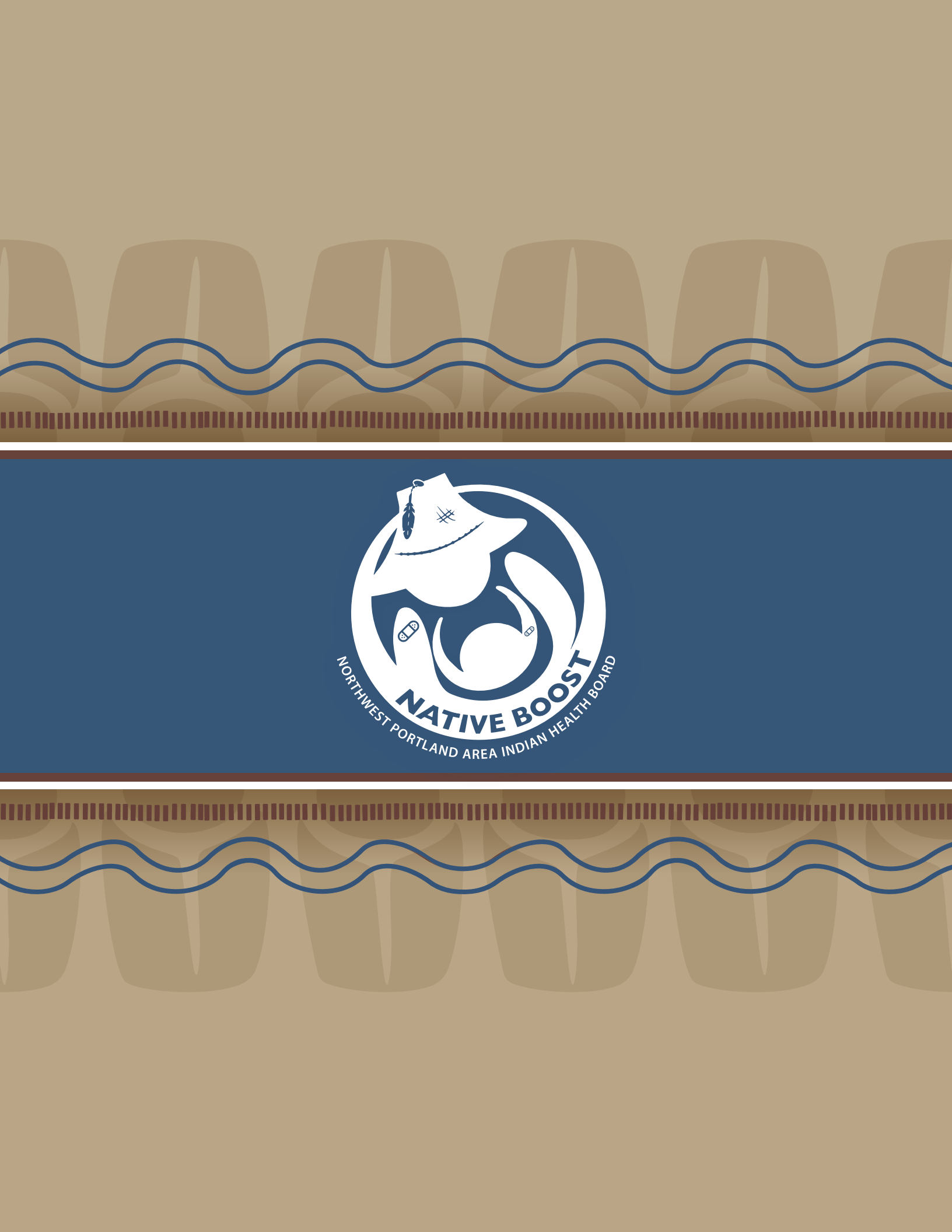
We hope that you found this guide useful. If you have additional questions, please attend one of our workshops (visit www.boostoregon.org/events for dates, times, and locations), check out the resources listed above, and speak to your medical provider. You can also find downloadable resources and PSAs at https://www.npaihb.org/native-boost/

Additional Resources

- For additional information about children's vaccines, check out Native Boost's website: (https://www.npaihb.org/native-boost/) and Boost Oregon's website (boostoregon.org), contact us at npaihb@npaihb.org or info@boostoregon.org, join our Facebook page (facebook.com/boostoregon), and follow us on Twitter (@boostoregon) and Instagram (Boost Oregon).

Other national and Oregon-based resources include the following:

- American Academy of Pediatrics (aap.org)
- Centers for Disease Control and Prevention (cdc.gov) Families Fighting Flu (familiesfightingflu.org)
- History of Vaccines (historyofvaccines.org)
- Immunity Community (immunitycommunitywa.org)
- Immunize Oregon (immunizeOR.org)
- Immunization Action Coalition (vaccineinformation.org) National Institute of Health (nih.gov)
- Oregon Health Authority (public.health.oregon.gov)
- Parents of Kids with Infectious Diseases (pkids.org)
- Vaccinate Your Family (vaccinateyourfamily.org)
- Vaccine Education Center (chop.edu)
- Voices for Vaccines (voicesforvaccines.org)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