

Pinnacle Pediatrics

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Welcome to our Enjoy Your Summer issue. I will primarily devote this Newsletter to Summer Pediatric health issues. However, yes, I will lead off with Coronavirus. As I discussed in my recent Update, we have truly turned the corner in this battle. Cases, hospitalizations and deaths are all dropping dramatically in the U.S. We are fortunate indeed -- many other areas of the world are still suffering greatly, most notably in India. In the U.S. we have developed vaccines that are extremely effective (and extremely safe), and we have vaccinated a high percentage of our population (currently about 51% of adults are fully vaccinated, and 70% have had at least one dose). When you add that to the percentage of the population that, although not immunized, has antibodies due to prior infection, it is easy to see why our case counts are dropping.

We have also now given tens of thousands of doses to the 12-16 year age group. As per the clinical trials, these appear to be very effective as well. Concern has been raised that a small number of children in this age group are developing myocarditis (an inflammation of the heart) after the vaccine. This is obviously being looked into, and I do not have further information at this time. Myocarditis is a recognized complication of COVID-19 in this age group. Hopefully we will not find a cause and effect relationship due to the vaccine. If we do, it is very likely that the risk will be minimal (similar to the risk of stroke with the J&J vaccine) such that the benefit of the vaccine in this age group will outweigh the risk. I will naturally keep you informed as we get more information on this.

Despite the good news, COVID-19 is not gone. We are still seeing tens of thousands of cases per day in the U.S. Children represent about 13% of the cases of COVID-19 nationwide, and about 2% of hospitalizations due to this disease (Pediatric News, May 2021).

So, the most common question I get now is, Can we resume our normal life? Is it ok for my child to go everywhere, do everything? What about masks? As always, part of this answer depends on personal risk-tolerance. As per the recent CDC guidelines, it is now very safe for fully vaccinated individuals to resume their normal lives (with masking still recommended on public transit and in health care facilities). For children under age 12, who will not be vaccinated until at least late this year, I do think they can resume normal activity as well. We know they are very unlikely to get serious disease from this virus, and we do know they are not effective spreaders of the virus. There may still be certain areas, especially crowded indoor areas, that parents may wish to avoid with their children. I do believe it is fair now to regard this similar to Influenza. We know that every winter (except this one) about 30,000 people, including about 100 children, will die from Influenza in this country. But, other than getting vaccinated, most individuals do not alter their normal routines, including children.

Other questions -- will we need a booster dose? It is certainly possible. As with all of our vaccines, the scientists will follow a cohort of individuals and measure their antibody levels. If they see that the levels are dropping below a desired amount, a booster dose will be recommended. That is how it is determined that some of our "routine" vaccines are given once, or twice, or multiple times. Will there be more spikes in cases? Again, certainly possible, especially in areas where vaccination rates are relatively low. We may hear that cases are climbing in certain areas, and mitigation efforts will increase/resume in these areas. Will there be another spike next Winter? See above. Yes, it is certainly possible. The hope is that by then we will have such a large portion of the country vaccinated, including children, that this will not cause a major disease outbreak. Of course, the biggest fear is that a SARS-CoV-2 variant will emerge that is resistant to our current vaccines. This virus will continue to circulate for a long time around the world, allowing the possibility of this scenario. Fortunately, the current vaccines have proven effective against all mutant strains so far (to varying degrees). The good news is that, especially with the mRNA technology, developing a new vaccine to treat a resistant strain should be relatively easy to accomplish.

So, yes, I do believe it is safe to enjoy a basically "normal" summer with your children this year. Ultimately, you, the parents, will decide exactly what your risk tolerance will be. Just as some of you will take your kids on the Jack Rabbit, some of you will stick to the merry-go round. Some of you will indulge in Potato Patch fries, others will bring organic kale from home. But I do hope you all get out and enjoy what this area has to offer. So, to help you and your children enjoy a safe, healthy and fun Summer, please read on.

Insect Repellent

Mosquitoes transmit Zika, Chikungunya, West Nile, Dengue, Yellow fever and Malaria. Ticks transmit Lyme Disease, Rocky Mountain Spotted Fever, Ehrlichiosis and others. Hence, an effective insect repellent must work against both. The CDC documented a doubling in the incidence of tick-borne diseases between 2004-2016.

DEET is a longstanding insect repellent with proven efficacy and safety. The AAP recommends using DEET formulations of 10-30% in children. Concentrations above 50% are not more effective and can be toxic. This should be effective against mosquitoes for 12 hours, and against ticks for 5 hours. Some DEET products are oily and sticky, and can damage clothes made from synthetic fibers.

Picaridin 20% has also proven safe and effective for 8-10 hours against mosquitoes and ticks. It is odorless, non-greasy and does not damage fabrics. The AAP recommends concentrations of 5-10% in kids. Picaridin is most effective as a spray. IR3535 is effective against mosquitoes and ticks at concentrations of 10% or greater, and is approved in children. However, the duration of protection is only a few hours.

Wearable devices sold as insect repellents are not effective.

Oil of lemon eucalyptus provides 6 hours of protection against mosquitoes, but is less effective against ticks. It is not approved for children under 3 years of age. Citronella provides short-term protection against mosquitoes, but is less effective against ticks. Essential oils, such as clove, geraniol and patchouli are less effective.

Insect repellent should be applied after sunscreen, so as not to increase its absorption. Combination products should not be used, because sunscreen needs to be applied much more frequently, which would lead to excessive repellent application and possible toxicity.

Permethrin is an effective mosquito and tick repellent that can be applied to clothing. It remains active for several weeks, even with multiple launderings.

The most potent protection for kids appears to be either 30% DEET or 10% Picaridin applied topically combined with Permethrin applied to clothing.

Removing areas of standing water should help to decrease the mosquito population. A nightly tick check should be a routine, and can drastically reduce the risk of tick-borne disease. If a tick is present, remove by pulling straight up with tweezers – this can take a fair amount of force. The official recommendation to have your children wear long sleeves and long pants, with the pants tucked into their socks, is also effective. Although this may be reasonable if they are hiking thru a forest, forcing your child to play outside on a 90° day dressed like this will likely bring a smile to the makers of Fortnite, due to the child's rapid return to air-conditioned comfort.

Sunscreen

Sunscreens received some negative publicity recently due to new evidence demonstrating that many of the active ingredients can be absorbed through the skin. However, this has not been demonstrated to cause any toxic effects. In addition, a recent study found trace amounts of benzene, a known carcinogen, in multiple sunscreen products. This is now being investigated by the FDA as well. Chemical sunscreens are still recommended pending further study.

Sunscreen is recommended to protect against both UVA rays, which are largely responsible for skin cancer, as well as UVB rays, which cause sunburn and also contribute to skin cancer. An SPF of 30 blocks 97% of UVB rays, 50 blocks 98% and 100 blocks 99%. Sunscreen should be reapplied every 2 hours, and more frequently if in the pool/ocean or sweating.

Mineral sunscreens (Titanium dioxide, zinc oxide – the stuff on Larry the Lobster's nose – ask your Sponge-Bob-watching kids) are not as effective as chemical sunscreens. However, since they are not absorbed through the skin, they are currently enjoying renewed popularity. Studies show that most individuals use an insufficient amount when applying sunscreen. There is no scientific evidence that "internal" sunscreens, which one drinks, offer any significant benefit. Sunscreen is not approved for infants less than 6 months old, though the AAP states that if extended exposure to midday sunshine (10AM-4PM) cannot be avoided, it is o.k. to apply sunscreen to these infants.

Lyme Disease

Most cases of Lyme Disease in the U.S. occur between May and September. In recent years, Western Pa. has shown a dramatic increase in the incidence of this disease. It is caused by a spirochete, *Borellia burgdorferi*, which is transmitted to humans by the deer tick.

The characteristic skin lesion, erythema migrans, usually develops at the site of the tick bite 3-30 days (usually 1-2 weeks) after the tick bite, and expands over the next several days. Fever, headache, malaise, joint and muscle pain may accompany the rash. This is known as Early Lyme Disease. Weeks to months after these initial symptoms, untreated Lyme Disease may result in cardiac, neurologic or rheumatologic symptoms.

The tick must be attached for greater than 36 hours to transmit the disease. If a tick has been attached for this long, a single dose of an antibiotic (Doxycycline) may help to prevent Lyme Disease. Although this drug is not approved for children less than 8 years of age, due to possible staining of the teeth, most experts do not believe that a single dose carries much risk. If a child does develop Early Lyme Disease, appropriate treatment with a full course of antibiotics will usually prevent the later, more serious complications.

So, although Lyme Disease is much more prevalent in our area now, and can cause serious complications, there is cause for vigilance, not consternation. This disease is relatively easily prevented (insect repellent, nightly tick check), easily diagnosed (most children develop the characteristic rash) and easily treated (standard antibiotics), which prevents the later complications. Although you may not want to encourage your little cherub to adopt Timmy the Tick as a family pet, you do not need to treat every tick sighting as a sign of the apocalypse.

Swimming Pools

Drowning is the leading cause of death for children age 1-4 years. Drowning happens quickly and quietly. "Keeping an ear open" will not prevent drowning. Pre-school aged children need continuous, non-distracted attention around water. Learning to swim is a vital component of drowning prevention.

The most common illnesses associated with swimming pools, and other aquatic environments, are gastrointestinal. An estimated 350 disease outbreaks linked to swimming facilities were reported between 2003-2012. No one should be permitted in a pool who has diarrhea and that individual should wait 1 week after diarrhea resolution before entering a pool. Diaper changes should never be poolside.

Children should be reminded not to swallow pool water. *Cryptosporidium*, the chief organism causing waterborne illness, is relatively chlorine-resistant.

Swimming pools, water-parks, lakes and other water venues are a popular source of summertime fun. As with many activities, though, a reasonable amount of caution is recommended.

Yes, sunburn, skin cancer, West Nile virus, Lyme Disease, drowning and diarrhea are all realistic summertime concerns. But after hiding indoors trying to avoid Coronavirus for the last year, Timmy the Tick is starting to look like a reasonable pet option. (Just kidding, of course. But maybe George the Grasshopper and Sammy the Slug are looking a little better?).

The past 15 months have been difficult, in multiple ways (do I get the award for Understatement of the Year?) Yes, Sars-CoV-2 is still with us. Reasonable precautions are, well, reasonable. But we are in a much better place now. So, have a safe, healthy and FUN Summer with your children. You deserve it. So do they.

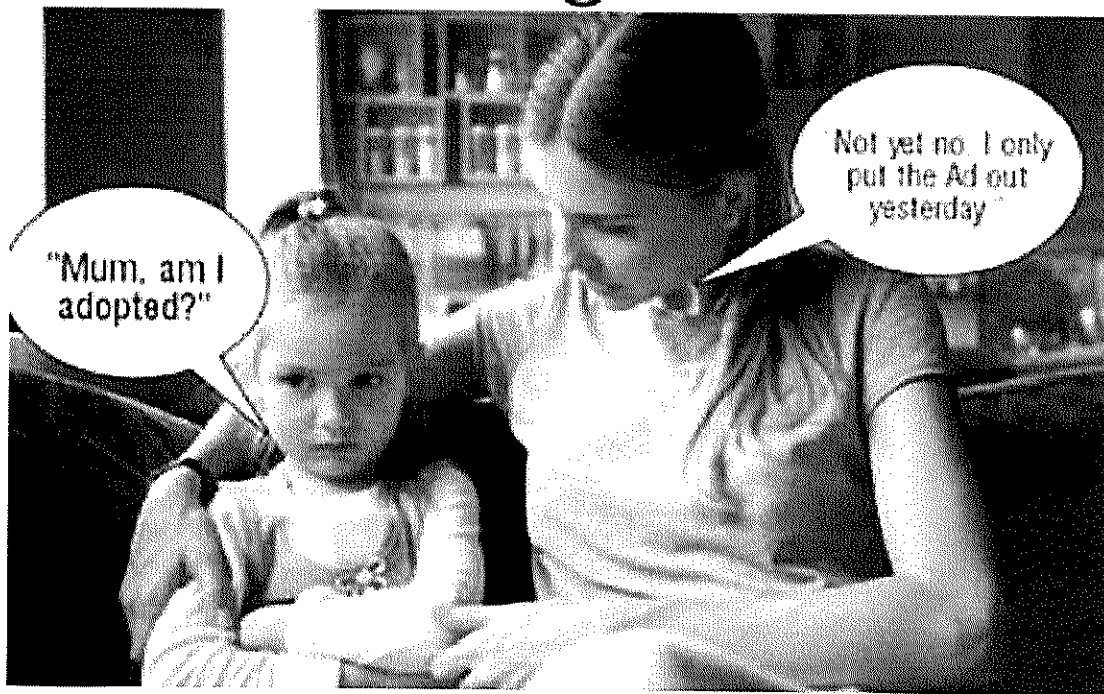
Best regards,

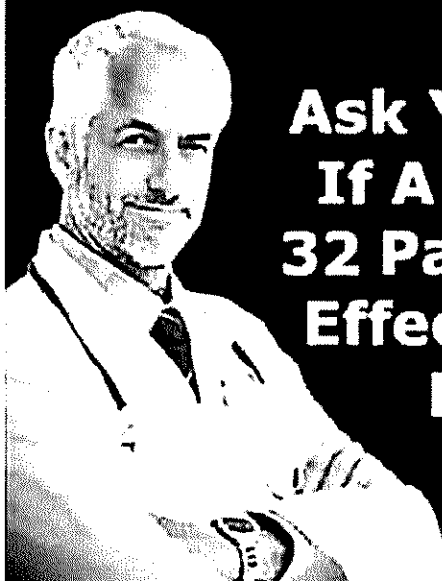
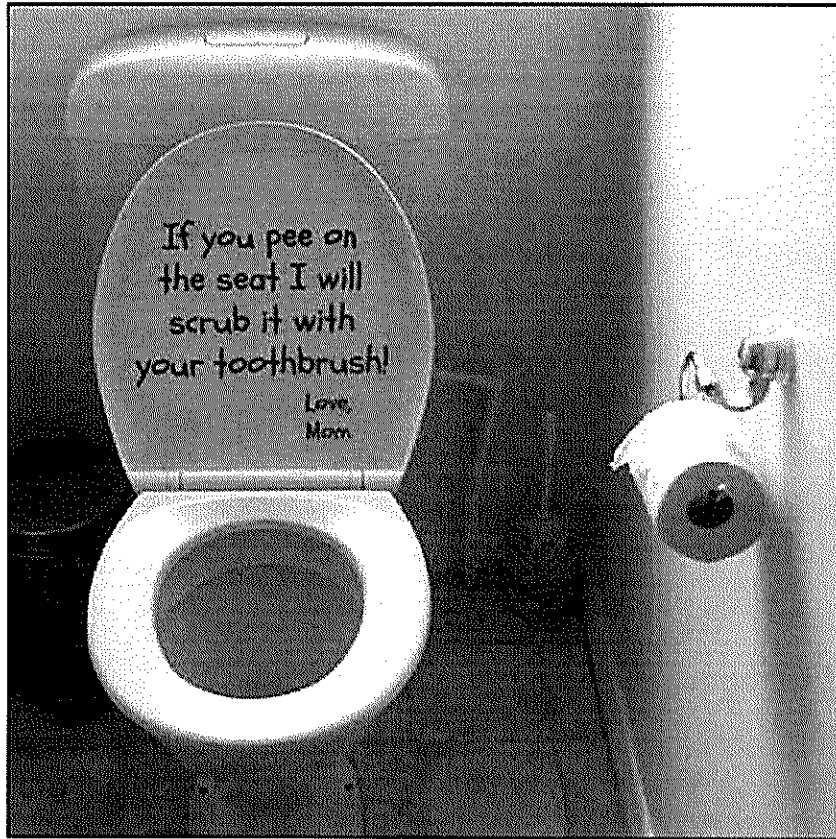
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P.S.~ This issue's Back Page will hopefully put a smile on your face that will last all Summer long. Enjoy!

**MY NEIGHBOR JUST YELLED
AT HER KIDS SO LOUD THAT
EVEN I BRUSHED MY TEETH
AND WENT TO BED.**

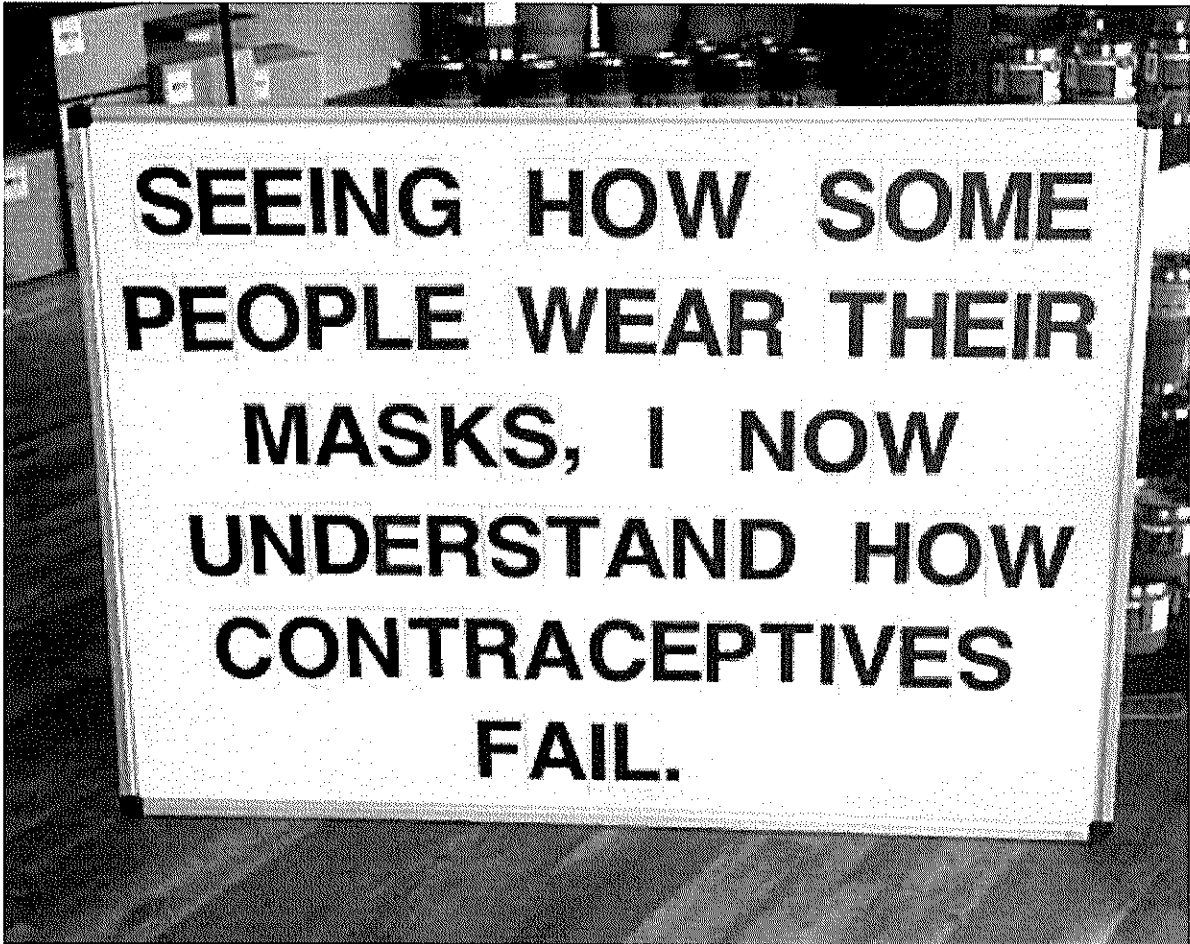
When parents start to
crack during lockdown





**Ask Your Doctor
If A Drug With
32 Pages Of Side
Effects Is Right
For You.**

**I tried to re-marry my
ex-wife.
But she figured out I
was only after my
money.**



**SEEING HOW SOME
PEOPLE WEAR THEIR
MASKS, I NOW
UNDERSTAND HOW
CONTRACEPTIVES
FAIL.**

**I told my suitcases
that there will be no
vacation this year.
Now I'm dealing with
emotional baggage.**