

# Pinnacle Pediatrics

*Scott R. Serbin, M.D., F.A.A.P.*

## **Pinnacle Pediatrics Newsletter** **Vol. XXI, No. 3**

Yes, it has been a little chilly and wet around here, but Summer IS almost here. Sunny days, warm nights, the sound of your children's voices laughing and playing. Obviously, Summer is a wonderful time in a child's life, and generates many (?most) of their childhood memories.

Unfortunately, Summer, like life itself, is not perfect. There are a variety of hazards that can circumvent a parent's best-laid plans for a wonderful summer for their child. This is my annual Summer Health issue. I will address the risks of insect bites, sunburn, Lyme Disease, drowning and heat stroke.

An additional risk factor for those of you with teen drivers is motor vehicle accidents. Teens generally spend far more time behind the wheel in Summer than in other seasons. You are likely aware that gun-related deaths have now superseded motor vehicle accidents as the leading cause of death in childhood. But motor vehicle deaths are still far too common, and largely preventable.

Most recent studies have focused on teen's impaired driving and distracted driving as causes for their high accident rates. But a recent study from the Governors Highway Safety Association reinforced the old adage "Speed kills". They found that, from 2015-2019, teen drivers and passengers accounted for 43% of all traffic fatalities involving speeding. In all, 4,930 teens died in speeding accidents during this period.

Driving is a huge rite of passage for most teens. The thrill of driving fast is an often irresistible temptation for their rambunctious, not-yet-fully-mature, "I am invincible" brains. As you hand them the keys (with your hands trembling more than theirs) they do need to understand that this is a line they cannot cross. "Do not exceed the speed limit, no matter how many cars are whizzing past you, period." Yes, it is fair to establish a ground rule - - - if you are charged with ANY moving violation, you lose your driving privileges for...(whatever period you deem appropriate). AND, it is absolutely appropriate to place a simple monitoring device in their car with which you can monitor their driving speed at all times. This is VERY effective at eliminating any chance that your child will disobey the speed limit. They may protest - - - too bad. Driving is a privilege, not a right. They will thank you at their wedding - - - and initiate the same safety measures with their children. (FYI, none of my 4 children, now all in their 20's, ever had a moving violation. I did not have a listening device in the car, so I cannot verify how many times they spoke unflatteringly of me. 😊)

For further advice on keeping your kids safe and healthy this 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 forceps – 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 and 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. Redness at the site of the tick bite 1-2 days after the bite is a local inflammatory reaction and is NOT a sign of Lyme disease. 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. So, if you are certain the tick was attached for a shorter duration, nothing further needs to be done. 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. There is no reason to test for Lyme disease in the Early stage, as the false-negative rate is too high. The diagnosis is based on clinical symptoms.

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 (greater than 90% of 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. An average of 9 preschoolers and 10 kids age 5-19 years die each week during the Summer from drowning. 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. Congratulations to your 9 month old getting his "Mommy and Me" swim certificate. He is NOT water-safe. The Olympic gold medal is still a possibility though.

## **Automobile Heat Stroke**

In 10 minutes, a car can heat up by as much as 20 degrees F. Rolling down a window does little to keep a car cool. A child's body temperature rises 3 to 5 times faster than an adult's. NEVER leave a child in a vehicle unattended.

Make it a habit to look in the back seat every time you exit the car. Forgetting a child in the backseat seems unimaginable, but it happens at an alarming rate.

If you have young children at home, lock your car even in your own garage, and put the keys out of reach. A small child may be able to get into the car, but then be unable to get out, which can lead to heatstroke.

Have I taken all the fun out of Summer yet? I hope not! Summer is a wonderful time in a child's life, probably producing more great memories than the other 9 months of the year combined. Great weather, no school, family vacations — wish you were 12 again 😊? Enjoy all our area has to offer — Kennywood, Sandcastle, wave pools, Laurel Highlands, etc., etc. Hopefully, by following the precautions outlined above, your family will have a safe, healthy and FUN Summer. (As for those of you complaining that it is too hot, too buggy and the kids being home all day are driving you crazy — take the advice from Animal House, “Road Trip!”. Or, just sit in your air-conditioned house, sip a cold lemonade, and play a long game of Monopoly with the kids. Just don't trade your 8-year-old 2 railroads for her Boardwalk and Park Place. She will learn about scams later, when she gets her cell phone).

Sorry to disappoint you, but this issue's Back Page is poignant, not humorous. But it relates well to my comments on teen drivers, as well as parenting in general. Hopefully it will still make you smile. Happy Summer!

Best Regards,

*Scott R. Serbin M.D., F.A.A.P.*

My promise to my children as long as I live - I am your Parent 1st - your Friend 2nd. I will stalk you, flip out on you, lecture you, drive you insane, be your worst nightmare and hunt you down like a bloodhound when needed because **I LOVE YOU!** When you understand that, I will know you are a responsible adult. You will **NEVER** find someone else who loves, cares and worries about you more than I do! If you don't hate me once in your life - I am not doing my job properly.