

# **Pinnacle Pediatrics**

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## **Pinnacle Pediatrics Newsletter**

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Welcome to Summer! I know, I'm a little late. I wanted to get this Newsletter out in late May. Unfortunately, I simply could not find the time. Like most of you, between work-related activities (60-70 hours/wk) and spending time with my 4 kids, plus  $\approx$  1 hour of exercise each day, my 5:30 A.M. - 11:00 P.M. day never seems to be long enough. I could work less, but my patients' parents may not be too pleased with that. I could spend less time with my kids, but I would not be pleased with that. So, I apologize for the delay in getting this Newsletter out, and I promise (?) to get the Autumn Newsletter out before the last leaf falls.

I do have several summer-related topics to discuss -- hopefully they will still prove to be useful to you. Any mention of "Back to School" in my house draws a stern rebuke, so let's just pretend Summer will last forever...

### **Zika virus**

This is the #1 trending topic on the Pinnacle Pediatrics question list. I did send out a group email on this subject back in February, but we now have additional information on Zika.

The current western-hemisphere outbreak started in Brazil in mid-2015. Although it is rampant in tropical South and Central America, all of the cases in the United States, until very recently, have been travel-related (i.e. travel to a country where it is endemic, or having sex with someone with that exposure). As of this writing, we now have 14 cases near Miami, Fla. with no travel history, i.e. they were likely contracted from infected mosquitoes in Florida. No mosquitoes in the U.S. have tested positive yet, but I suspect that will change very soon. The good news is that mosquitoes only travel about 350 yards from home in their lifetime, so hopefully mosquito-control efforts can contain this threat to a limited area. It is certainly likely that other tropical areas of the U.S. may have a significant problem with this, but there is currently no cause for alarm in more temperate areas, such as ours.

As I discussed in the prior email, Zika virus generally causes a mild illness. The chief concern is that this virus can cause severe birth defects, So, only women who are pregnant, or planning on becoming pregnant, and their sexual partners, really need to be concerned about this virus. (Note -- these birth defects only occur while the virus is in the woman's body. Once it is gone, generally after 3 weeks, there is no further risk). Those individuals should certainly avoid areas with known Zika virus infestation. For the rest of us, there are plenty of more important items to worry about. Read on...

## **Insect Repellants**

*The Medical Letter. 58: 83-84, July 4, 2016.*

Mosquitoes can transmit Zika, chikungunya, dengue, West Nile and yellow fever viruses, and malaria. Ticks can transmit Lyme disease and Rocky Mountain Spotted Fever. Hence, an effective insect repellent must work against both.

DEET is a longstanding product with proven efficacy and safety. Products containing 20-50% DEET are effective against mosquitoes for 12 hours, and ticks for 5 hours. Concentrations above 50% are not more effective. Some DEET products are oily or sticky, and can damage clothes made from synthetic fibers. The AAP recommends using formulations of 10-30% in children due to the risk of toxic encephalopathy with prolonged or excessive use.

Picaridin 20% has also proven 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.

Oil of lemon eucalyptus provides 6 hours of protection against mosquitoes, but is less effective against ticks. This should not be used on children under 3 years of age.

Citronella provides short-term protection against mosquitoes, but is not 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 re-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.

Thus, using Picaridin (or DEET) on the skin and Permethrin on clothes should give your cherubs the best chance of staying bite-free. Removing areas of standing water should help to decrease the mosquito population. Insect repellent should be washed off when the child is done being outdoors for the day.

## **Sunscreens**

**Consumer Reports.** July, 2016, p. 21-29.

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. The SPF is a measure only of the UVB protection. An SPF of 30 blocks 97% of UVB rays, 50 blocks 98% and 100 blocks 99%. Sunscreen should be reapplied every 2 hours -- more frequently if in the pool or sweating.

Mineral sunscreens (Titanium dioxide, zinc oxide -- the stuff on Larry the Lobster's nose -- ask your kids) are not as effective as chemical sunscreens. Sprays can be as effective as lotions if applied adequately. There is no scientific evidence that "internal" sunscreens, i.e. products that one drinks, offer any significant protection.

This article lists a plethora of sunscreens with ratings on their effectiveness, as well as cost. It also discusses product texture and scent. Bottom line, there are plenty of safe and effective sunscreens, but you need to apply an adequate amount and re-apply frequently. Sunscreen is not approved for infants less than 6 months.

(Hopefully, this is the only topic that I am hypocritical on. Yes, between mowing my lawn and watching my kids' baseball and fast-pitch softball games, I do allow myself to get tan. I know this places me in the company of the overweight physician who smokes and has brandy on his desk, but permit me one vice, c.k? My kids use sunscreen).

## **Lyme Disease**

**The Medical Letter.** 58: 57-58, May 9, 2016.

Most cases of Lyme Disease in the U.S. occur between May and September in the Northeastern, Mid-Atlantic, and North Central states. It is caused by a spirochete, *Borellia burgdorferi*, which is transmitted to humans by the deer tick. The characteristic skin lesion, erythema migrans, develops at the site of the tick bite 3-30 days (usually 1-2 weeks) after detachment of the tick, and expands over days to weeks. Fever, headache, malaise, joint pain and muscle pain may accompany the rash. Weeks to months after the initial infection, untreated Lyme Disease may result in cardiac, neurologic or rheumatologic symptoms.

Ticks must be attached for greater than 36 hours to transmit the disease. If a tick has been attached for greater than 36 hours, a single dose of an antibiotic (Doxycycline) may help to prevent Lyme Disease (not approved for children less than 8 years old).

Patients who develop early Lyme Disease symptoms who are adequately treated with antibiotics usually will not develop the later symptoms. Experts in the field generally do not believe there is an entity known as Chronic Lyme Disease.

Although Zika has supplanted Lyme as our #1 trending topic, Lyme still generates considerable anxiety in our patients. Over the last 2 summers, we have seen a dramatic increase in the number of tick bites in our area, and the number of cases of Lyme Disease. However, this is an easily diagnosed (almost 100% of children will develop the characteristic rash) and easily treated (common antibiotics) disease, and treatment almost always prevents the later complications.

New this year is the recommendation for single-dose prophylaxis with Doxycycline for a greater-than-36 hours (or indeterminate) tick. This drug is contraindicated in children under 8 years because it can cause permanent yellow-staining of teeth. However, the risk of this after only 1 dose is likely very low.

The best prophylaxis is the nightly tick check. If you do find a tick, remove it by pulling firmly with tweezers (may take a surprising amount of force). Because the tick needs to be attached for greater than 36 hours, checking fastidiously for ticks every night at bath time (easier with young kids -- good luck with your teenagers) is theoretically 100% protective (though they are tiny, and hide in funny places). (The ticks, not your kids).

### **Swimming pool risks**

***Infected Diseases in Children.** 29:7: 1-13, July, 2016.*

One of every eight routine inspections of swimming pools and other aquatic venues conducted nationwide in 2013 resulted in immediate closure due to sanitation, maintenance, or safety risk violations, according to the CDC. An estimated 350 disease outbreaks linked to swimming facilities were reported between 2003 and 2012.

The most common illnesses were gastrointestinal. The chief safety concern is drowning, which is the leading cause of mortality for children aged 1 - 4 years.

No one should be permitted in a pool who has diarrhea, and that individual should wait 1 week after the diarrhea has resolved before entering a pool. It is hard to maintain adequate chlorine levels in kiddie pools, so they are especially likely to transmit disease. Hot tubs and jacuzzis also present a greater risk, as the hot water is a good breeding ground for bacteria.

Children should be reminded not to swallow pool water. They should shower before entering the pool, to remove any fecal material. Diaper changes should never be poolside.

Drowning happens quickly and quietly. "Keeping an ear open" will not prevent drowning. Small children need continuous, non-distracted attention around water. Learning to swim is a vital component of drowning prevention, but young children still require constant supervision.

So, swimming, the sun, the great outdoors -- they are all just too dangerous, right? Wrong. As with so much in life, a risk:benefit analysis is in order. The benefits of being outdoors, getting exercise and having fun should not be underestimated. However, that does not mean risks should be ignored either. The prudent suggestions offered here should allow for safe, fun outdoor adventures. (That's right, put your screen down and get outside. Whaddya mean, you need your screen for Pokemon Go? Whatever happened to kick-the-can?)

### Flu vaccine

Yes, it will soon be Flu vaccine season again. The big news this year is that there will be no Flumist (the nasal spray). The Advisory Committee on Immunization Practices of the CDC, after analyzing data for the last 3 years, concluded that Flumist was not effective enough to recommend its administration. Unfortunately, even the regular vaccine was only 63% effective.

In addition to causing mass hysteria among needle-phobic kids, this recommendation is likely to cause Flu vaccine shortages this year, as manufacturers will not be able to provide enough vaccine to compensate for the absence of Flumist. However, the poor efficacy of the regular vaccine may cause many individuals to forego the Flu vaccine this year.

As for our practice, I will still recommend the Flu vaccine, but it is hard to be too emphatic about it with such poor efficacy (in contrast, most of our "routine" vaccines are 95-99% effective). Due to the fact that almost half of the doses I usually administer are with Flumist, I may have supply difficulties as well. Because of this, I will need to limit the adult doses I typically give to parents and others, in order to conserve vaccine for the kids. I apologize for the inconvenience.

Again, I apologize for the late arrival of our Summer Newsletter. I hope it does prove of benefit to you and your children, and that you all enjoy the remaining lazy, hazy days of Summer. Now go find Pokemon (or whatever you do in that game), or kick a can, or go swimming (in a clean pool), or...

Best regards,

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

P.S.--This month's Back Page features some amusing actual headlines that may have caught their editors napping. Enjoy!

### **Man Kills Self Before Shooting Wife and Daughter**

*This one was caught in the Tribune the other day and called the Editorial Room and asked who wrote this. It took two or three readings before the editor realized that what he was reading was impossible! They put in a correction the next day!*

### **Something Went Wrong In Jet Crash, Expert Says**

*Really?*

### **Police Begin Campaign to Run Down Jaywalkers**

*Now that's taking things a bit far.*

### **Panda Mating Fails; Veterinarian Takes Over**

*What a guy!*

### **Miners Refuse to Work after Death**

*No-good-for' nothing' lazy so-and-so's.*

### **Juvenile Court to Try Shooting Defendant**

*See if that works any better than a fair trial.*

### **War Dims Hope for Peace**

*I can see where it might have that effect.*

### **If Strike Isn't Settled Quickly, It May Last Awhile**

*Ya think?*

### **Cold Wave Linked to Temperatures**

*Who would have thought.*

### **Enfield (London) Couple Slain; Police Suspect Homicide**

*They may be on to something.*

### **Red Tape Holds Up New Bridges**

*You mean there's something stronger than duct tape?*

### **Man Struck By Lightning: Faces Battery Charge**

*He probably IS the battery charge.*

### **New Study of Obesity Looks for Larger Test Group**

*Weren't they fat enough?*

**Astronaut Takes Blame for Gas in Spacecraft**

*That's what he gets for eating those beans.*

**Kids Make Nutritious Snacks**

*Do they taste like chicken?*

**Local High School Dropouts Cut in Half**

*Chainsaw Massacre all over again*

**Hospitals are Sued by 7 Foot Doctors**

*Boy, are they tall!*

**And the winner is...****Typhoon Rips Through Cemetery; Hundreds Dead**

*Did I read that right?*