The findings suggest that regular attendance at pools, especially during early life, can promote the development of atopic asthma. Green that atopic asthma is a form of the disease that appears largely responsible for the childhood asthma epidemic and is a chronic disease that greatly affects quality of life, the study points to the need for preventive measures, the authors state. One characteristic that children younger than 7, especially those with allergies, could avoid strongly chlorinated swimming pools, as identified by a strong database at the surface of the water (for outdoor pools) or inside the enclosure (for indoor pools). —Angela Spivey

Estimating Intake from Grocery Store Foods

High concentrations of polybrominated diphenyl ethers (PBDEs) found in the U.S. population and blood have raised concern because of these compounds’ similarity to polychlorinated biphenyls. Although PBDEs are found in a variety of products, including polyurethane (PU), fire retardants, and soaps, the most widely studied gene implicated in NTDs is the MTHFR rs3733890 SNP when the data were stratified by preferential transmission of one particular allele from parent to offspring. —Bernard et al.

The team used high-resolution mass spectrometry to measure 13 different PBDE congeners in samples of 62 basic foods including fresh fruits and vegetables, processed meats, and processed milk. The foods analyzed were purchased at three large national chain supermarkets in Dallas in 2004. Of the 13 congeners measured, only about half were found as major contaminants of the food sampled, a finding that parallels earlier observations of the relative prevalence of various congeners in human blood. Although levels of PBDEs varied greatly within samples of the same type of food, some trends were clear: fish and shellfish were the highest in bromination by weight, followed by meats and dairy foods. But when relative consumption of these foods by Americans was calculated, sufficient information was not available to contribute the most PBDEs to the diet of Americans beyond weaning. (Nursing infants’ intake is very low.)

This enabled sampling of air wherever the teenager spent time over a 48-hour period, providing an integrated measurement of the air exposures from all indoor and outdoor environments.

The results showed that certain SNPs in the betaine-homocysteine methyltransferase (BHMT) gene were significantly associated with NTDs, and that the significance was strongest with mothers who took folate supplements before conception. However, MTHFR, the most widely studied gene implicated in NTD research, was not found to be a significant risk factor. The authors speculate that the stratification method they employed may have inadvertently grouped families by one or more unidentified cofactors correlated with MTHFR. The group also found an association between individuals with the rs3733890 SNP when the data were stratified by preferential transmission of one particular allele from parent to offspring. Further research is clearly indicated.

The authors analyzed the genome of 304 families where at least one individual had an NTD. They focused their analysis on 28 single-nucleotide polymorphisms (SNPs) in 11 genes involved in folate metabolism and the genotypic estimators of potential gene–gene interactions and by whether the mothers had taken folate-containing nutritional supplements prior to conception.

If these results are confirmed, it appears there may be a subgroup of women in whom folate acid supplementation is actually positively associated with risk. This finding may be an early sign of a need for intervention before pregnancy. —Bernard et al.

This study is unique in its focus on teens in two groups in two of the nation’s largest and most polluted cities. The two cities have different climates and different topography and commuting options, all factors that can influence exposures to both outdoor and indoor pollutants. Surprisingly, the authors found no significant differences in risk factors among the two cities.

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Swimming Pools and Allergens?

**Pool Use and Asthma**

Asthma has been the focus of much of the research on the causes of childhood asthma, especially in the United States. However, asthma can also be caused by many other factors, including exposure to allergens.

Now researchers provide new findings that further support one proposed reason—indoor allergens—may be linked to asthma. For example, they found that children who spent time at swimming pools had higher levels of allergens in their homes.

This new research is important because it supports the idea that indoor allergens may play a role in the development of asthma. However, more research is needed to determine the exact role of swimming pools in the development of asthma.

**Faulty Folic Acid Assumptions**

**Prenatal Supplements Not Always a Good Idea**

Prenatal vitamins can be an important part of a healthy pregnancy. However, a study found that certain prenatal vitamins may actually increase the risk of neural tube defects (NTDs).

The researchers studied a large group of women who had taken prenatal vitamins and compared their outcomes to a group of women who had not. They found that women who took prenatal vitamins were more likely to have children with NTDs than women who did not.

The study suggests that prenatal vitamins may not be the best choice for everyone. It is important for women to talk to their doctors about their individual risks and to consider other options, such as genetic testing.

However, despite the findings of this study, prenatal vitamins are still recommended by many doctors. This is because they provide other important nutrients that are essential for a healthy pregnancy.