



ASTHMA AND THE HYGIENE HYPOTHESIS

About 600,000 New Zealanders have asthma which is about 1 in 4 people. This makes it the most predominant chronic health condition in New Zealand. It is also the leading cause of hospitalisation of our children and young people.

Asthma is a chronic inflammatory disease of the respiratory tract – an exaggerated production of the arachidonic acid derived eicosanoids, leukotrienes, (immune system messengers) - implicated as chemical triggers of inflammation. It stands to reason that anything that can cause inflammation in the body could influence asthma – this can include food, stress, and your environment.

International research has noted that Asthma rates have doubled across the civilized world since 1980. They have been looking into this, and in 1989, one of the researchers has suggested the "Hygiene Hypothesis" which many others have also looked into over the last two decades.

Simply put, the Hygiene Hypothesis is the theory that naturally occurring infections somehow immunize the body against the development of asthma, allergic diseases and autoimmune disease. If the body sees a lot of these natural infections, the immune system is skewed away from allergy and autoimmune disease. If it doesn't, and it gets too many antibiotics in the first year of life, and, in essence, its environment is "too clean", then the immune system moves towards allergy.

This theory came from the observation that children who are second or later in the family, and those who attend day care get fewer allergic diseases.

Circumstances that seem to be protective against Asthma are – early day care, animal exposure (debate about cats or dogs), farm living, many siblings and bacterial exposure.

Things that move the body towards asthma include obesity, dust mite exposure and tobacco smoke.

International research has made specific suggestions:

During pregnancy

- Probiotics for one month before and 6 months after birth.
- Omega 3 fish oil from 30 weeks to birth. The benefits of fish oil are undone if the mother smokes.
- Avoid pollution.

After birth

- Avoid formula feeding for the first week of life (the worst).
- Avoid early weaning before 4 months (second worst).
- Exclusively breastfeeding for at least 4 months lowers asthma rates by 30-50% for the first 5 years of life, especially if there is a family history of allergy. Note: this help is lost if mother is a smoker.
- No cow's milk before 6 months of age.
- Delayed, selective introduction of solids.
- Avoid Soy formula.
- Avoid antibiotic use in first year of life (small increase in asthma rate) – the more used, the higher the rate. This does not apply to sulphonamide antibiotics.

General measures

- Address any food intolerances – the most common are dairy and gluten, then peanut, soy, citrus, fish, seafood.
- There is mixed scientific literature about omega 3 fish oil – I think it won't hurt to try it.
- Three fish meals per week give 40% reduction of asthma.
- A low Glycaemic index diet lowers allergic symptoms. This is avoidance of foods that tend to raise blood sugars quickly, like sugar, white flour etc. Eat more nuts , vegetables, and low Glycaemic index cereals.
- More fruit and vegetables to increase Vitamins A and C.

Specific medical management of Asthma

- Get a flu vaccination.
- See your doctor and get a management plan if:
 - you use 3+ relievers per week
 - you wake in the night with asthma symptoms
 - your asthma limits your usual activities / sport.

For more information on Asthma visit the Asthma Foundation website at www.asthmafoundation.org.nz