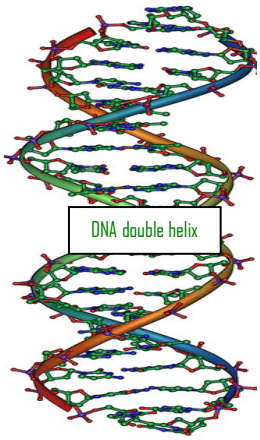

CHLORINE & DNA

There are many very good reasons for not drinking chlorinated water. Chlorine is a well documented poison - it tastes and smells awful and its disinfection by-products (trihalomethanes etc) are a particularly nasty group of chemical toxins. One of the least conclusive parts and possibly the most concerning of the whole chlorine story is however ……"What potential effect does chlorine and its disinfection by-products have on our DNA – the genetic footprint that pre-determines who, what and how healthy we are and will be?"

Deoxyribonucleic acid (DNA) is a polynucleotide - a complicated chemical structure – usually in the form of a double helix (see above). It contains the genetic instructions that specify the biological development of life. Each day we shed millions of DNA cells - when we dry ourselves, comb our hair, shake hands, scratch, remove clothing and simply go about our daily life. Each day we replace the cells that we shed with new ones.

We know that when two or more chemicals come in contact with each other, they react – sometimes violently. Generally there is an exchange that causes the formation of a new or altered compound or substance. For instance when chlorine and ammonia are combined, the resulting compound is referred to as a chloramine – a completely different chemical to either chlorine or ammonia. It therefore stands to reason that when chlorine and other chemicals and polluting substances are taken into our bodies there must be some potential to affect the nature or structure of the millions of new cells that we will form tomorrow.

The problem with adding chlorine, chloramine, copper lead or any other potentially water borne pollutant to deoxyribonucleic acid (DNA) is that we really don't know what the combined effect of these substances will be. It stands to reason though that there must be some altering effect.

Chlorine is undoubtedly a very valuable substance – widely used to control microbiological activity in water supplies around the world. It does however combine with organic matter in the water being treated to form a number of disinfection by-products (trihalomethanes). The best known of these is chloroform. Drinking chlorinated water not only introduces these chemicals into our bodies, but also clearly has the potential to influence our body's ability to produce healthy new cells – and therefore can clearly effect our ongoing health and well being.

Chlorine may well be beneficial in controlling bacteria levels in water but it must be likened to the lunch wrap that is used to protect our lunch. Beneficial, but it definitely needs to be removed before the lunch is eaten. It's the same with chlorine – beneficial but equally needs to be removed before the water is consumed.

The fact is that there is an easy answer. Good quality drinking water purifiers effectively "unwrap" the water that we consume – for both drinking and cooking.