



Health Fact Sheet

The Day/Night Shift

A healthy cell – therefore a healthy you – has a beautiful, fluid phospholipids membrane around it which allow nutrients, electrolytes and waste matter to move freely in and out of the cell.

The 4 electrolytes – sodium, potassium, calcium and magnesium – form a kind of dance over 24 hrs called the day/night shift. Magnesium and potassium live normally within the cell, and sodium and calcium are found outside. During the day sodium moves into the cell, taking a hydrogen ion with it, which is acidifying. In order to buffer this acidity, which is toxic to the cell, calcium also moves in. This has the effect of displacing potassium and magnesium which is pushed out of the cell. At night the opposite takes place and potassium and magnesium move back into the cell, pushing out the calcium and sodium, which takes the hydrogen ion with it. This has the effect of cleansing the cell, so you wake up bright and refreshed.

When the body is not cleansing properly, this process is impaired and instead you wake up tired, lethargic and unrefreshed. There is a higher sodium content in the cell, therefore a higher hydrogen (acidifying) content, and as water follows sodium in the body, the water content of the cell starts to swell. So the cell is under pressure from high acidity – so it pulls in more calcium, which displaces more magnesium etc, and a picture of electrolyte imbalance begins to build up. This is exacerbated in modern times by the fact that magnesium is now deficient in our soils, and therefore in the fruit and vegetables we eat, so the majority of us also have a magnesium deficiency to put alongside this.

Dehydration is also a major problem today. As the body is more than 70% water, and the drier our internal environment becomes the more various body functions are threatened. There is also a cycle set up between dehydration and stress – dehydration is stressing to the body, stress dehydrates so it becomes a vicious circle – and that's without the stress of our modern lifestyles!

As the body starts to feel dehydrated the integrity of the cell is threatened. In order to preserve the cell (remember, enough dead cells is a dead you as they are the building blocks of who you are) the body puts cholesterol, a hard fatty substance, into the fluid cell membrane to stabilise it and stop the cell collapsing and therefore dying. This has the effect however of making it more difficult for things to move through the membrane, so the acidity, excess sodium, water, hydrogen and calcium do not fully exit the cell. The deeper this picture, the more rigid the cell membrane becomes and the less the cellular cleanse takes place and the more tired and generally unwell you feel. A clear marker of this are elevated cholesterol levels in the blood.

So, bearing all this in mind, we need to right the balance – and it cannot be done overnight. It took time to get to this stage, and it takes time to unpick it.

We are basically looking to help the body cleanse and right its internal environment so balance can return. Part of the cleanse process is to ensure that as the cell is rehydrated, the cholesterol coating lessened, and the cell can start to 'clean house' so the toxins can be taken directly out of the body.

The cell puts toxins into the lymph, which transfers it to blood, which takes it to liver (or kidneys), which processes it into bile (or urine), into the bowels and out.

If any part of this picture is not functioning properly you effectively have blocked plumbing, with subsequent results of toxins backing up into the system.

So in order to keep this dance of the electrolytes working as it should we need to ensure that

- A) We have sufficient of the vital electrolyte minerals in our diet. Particularly deficient generally is magnesium.
- B) The routes of detoxification in our body are working well, not blocked and not overwhelmed.

Seemingly very simple, but the essence of the art of being healthy lies in understanding how to make this work for you.