Disturbances of volume and concentration of body fluids

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Methods of movement of ions and molecules between compartments

Diffusion

Movement of a substance from an area of high concentration to one of low concentration. This results from random movement of the fluid's constituent particles.

Facilitated diffusion

Carrier molecules transport substances from high to low concentrations. (Does not require energy).

Active transport

Protein pumps within the membranes use energy which is usually supplied by ATP. These pumps can move substances against concentration gradients.

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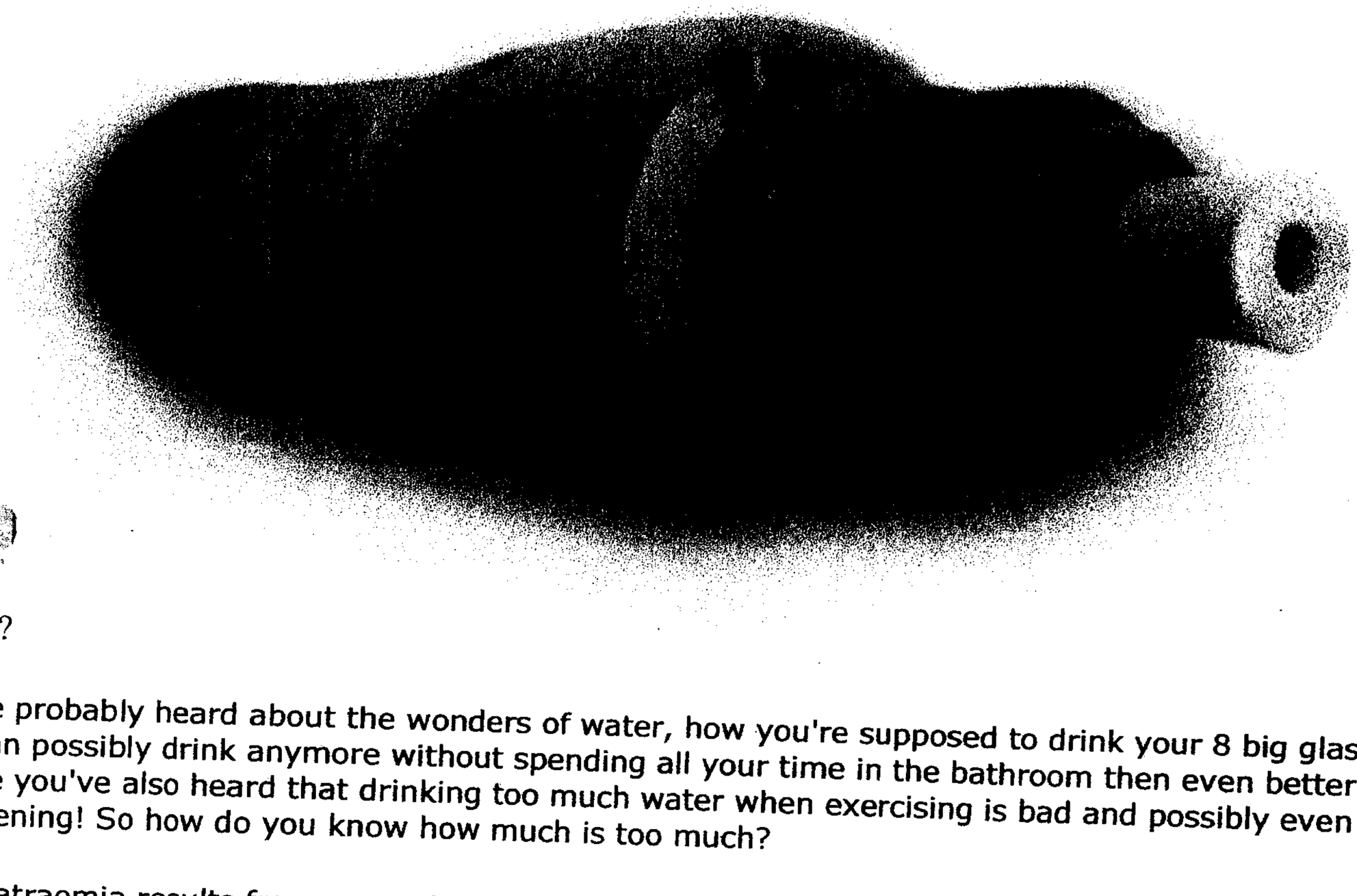

No?

ı've probably heard about the wonders of water, how you're supposed to drink your 8 big glasses a day and if can possibly drink anymore without spending all your time in the bathroom then even better, right? But /be you've also heard that drinking too much water when exercising is bad and possibly even life eatening! So how do you know how much is too much?

onatraemia results from excessive fluid consumption, which lowers the concentration of sodium in the blood , in extreme cases, and for a very small number of people, this can be fatal. But just before you swear either er to exercise again or vow to stop drinking water while your doing it, let's get some things straight.

s say you exercise regularly, about 1 1/2 hours a day, and during that time you work up a nice sweat but re also taking small sips of water when you feel the need to. What are the chances of you suffering from onatraemia? Virtually none. And if you exercise for 1 1/2 hours without any water at all, what are the ıces of you becoming dangerously dehydrated? Pretty slim also.

arathon runners, dehydration is a normal but temporary condition on crossing the finish line. And even if e pretty quick, we're still talking between 2 and 5 hours here, which is a pretty serious bout of exercise hever way you look at it. And it's under conditions like this, where you're exercising and sweating for long ds of time, when plain water just isn't good enough.

ially after about 90 minutes of exercise your body needs a little more than just water and that's when s drinks come in handy. Amongst other things they contain carbohydrates - that's where the energy comes to keep you going - and a small amount of sodium to replace any that you've lost by sweating. Of course, g said that, everyone is different: men generally sweat more that women - besides women don't sweat, we And if you're exercising during the hottest part of the day you'll sweat (or glow) more than you would by it earlier or later, and if you're on holiday and not used to exercising in the heat at all, you'll need to be a nore aware of how much you're perspiring compared to normal.

nly most of us will adequately replace any lost sodium, fluids and depleted energy stores by what we eat ink afterwards. And considering that water makes up about 60% of our total body weight, experts agree dequate hydration is crucial for the body to function optimally. So how much water is enough?

For moderately active men and women:

Male: Bodyweight (lbs) x 10.36
Female: Bodyweight (lbs) x 9.176

So a 119lbs woman needs to drink 1091ml of water a day (119 x 9.176 = 1091), which is very slightly over 1 litre.

But don't forget that if you're exercising you'll need to drink more to compensate for sweat loss.