

As the EZ forms, hydronium ions build up and these repel each other....at the tube end they escape creating lower pressure which draws free water in from the other end. The incoming bulk water is protonated by the EZ and this perpetuates the flow.

One might expect that nothing much would happen, but something does happen: after a few minutes of chaotic startup, you will see steady flow running through the tube, much like the blood running through a vessel. Its direction is unpredictable from one trial to the next, but once it gets going, it persists with little diminution for as long as an hour;⁴ and when steps are taken to ameliorate the effect of protons accumulating in the chamber, the flow can persist for more than a day.⁵ If you reorient the tube during this period, the flow maintains its direction relative to the tube.

We have observed this kind of flow not only through Nafion tubes but also through cylindrical tunnels bored within various gels. The results are similar. Thus, rather than being specific to any one material, this flow phenomenon apparently occurs due to the materials' hydrophilic nature. Tubes made of hydrophobic materials generate no flow. Evidently, some kind of local interaction between hydrophilic surfaces and water drives the flow.

While the detailed driving mechanism is not fully worked out, some aspects are clear (Fig. 7.10). An EZ demonstrably builds just inside the tube (a); we can see it. The EZ generates a buildup of hydronium ions in the core of the tube (b); we can measure it. When the hydronium ion concentration builds sufficiently, those positively charged water molecules must begin escaping at one end of the tube or the other, to the fluid outside. That escape initiates the flow (c). The escape draws fresh water into the other end of the tube. The incoming water gets protonated, which perpetuates the flow.

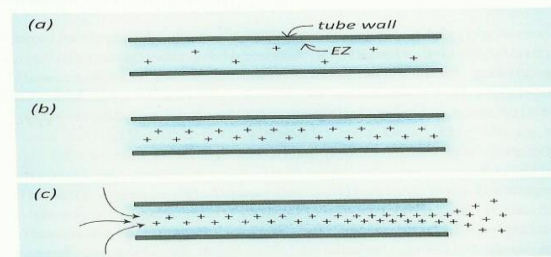


Fig. 7.10 Mechanism of intratubular flow. The key element is the hydronium-ion buildup in the tube core, and its escape to the water outside.

This also gives us an explanation for capillary action

Capillary action is another perfect example of how even intelligent people have confused symptoms with diagnosis.

The phenomenon of capillary action (and surface tension) is a symptom of the underlying mechanism.....

.....which can be explained by EZ water. Again we have external energy powering the development of EZ with charge separation. These charges attract and repel so driving water up hill.

This explains how water rises up plants and trees by transpiration (another symptom!)

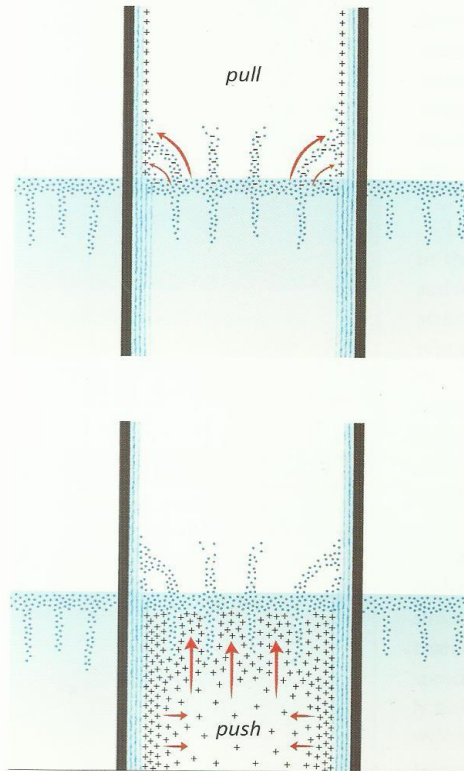


Fig. 16.13 Proposed mechanism of capillary rise. Positive charges from above pull negative surface layer upward (top); and positive charges from below push upward on hydronium ions concentrated immediately beneath the surface layer. Both forces may drive the rise of water.

Why Does Water Rise in Capillary Tubes?

To help identify the upward-driving force, it helps with the water's functional anatomy. Just beneath the surface lies the mosaic-like vesicle array. Since that surface is electrically negative, a charged-based rise force seems probable — either *pulling* from above or *pushing* from below. Both reasons exist for suggesting both.

First, consider the section of capillary tube going upward from the water's surface (Fig. 16.13). If EZ layers were to line the tube's inner wall, then those EZ layers create protons facing the tube's core. Those protons' positive charge could help draw any negatively charged vesicles upward.

Capillary tube walls exposed to the air should have at least some EZ layers. All hydrophilic surfaces adsorb airborne moisture. For example, dry substances like common table salt moisten when exposed to air, and those substances draw so strongly that they may undergo overnight liquefaction (deliquescence) even in fairly dry environments — including our own laboratory. A particularly avid moisture absorber, Nafion, is marketed as a desiccant. The more hydrophilic the substance, the more atmospheric moisture it will adsorb.

The moisture in the air comes in the form of vesicles (Chapter 15). Vesicles adsorb onto the hydrophilic surfaces (both inner and outer surfaces), zippering in the usual manner (Fig. 14.9). Complete zippering creates standard EZ layers of protons. With even a few protons lining the tube's inner surface, the positive charge needed for initiating the upward draw should be present. The walls can begin drawing vesicles upward.

Once that upward draw begins, its force should strengthen. As rising vesicles cling to those inner wall protons, zippering will expose more positive charges. Those charges will further enhance the drawing force, pulling up more vesicles.

What happens if we have light coming in from one direction? We see a non-uniform EZ in response to light with asymmetric charge distribution

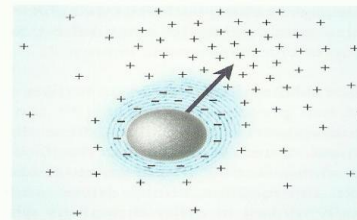
The photograph is of a 0.5mm bead with light coming in from the North-East – the bead moves NE!

Fig. 9.7 More intense incident energy (from upper right) should yield an asymmetric charge distribution. This asymmetry gives rise to a net electrostatic force, moving the object and its EZ in the direction of maximum incident energy.



Fig. 9.8 Asymmetric exclusion zone around a gel bead, resulting from incident light coming from top right.

expect a nonuniform shell with a correspondingly nonuniform charge distribution; see **Figure 9.7**.



In this figure, which way would the suspended microsphere want to move? The movable entity is not the microsphere alone; it is the microsphere plus its clinging EZ. That blob could move in any direction in theory, but being negatively charged, it will inevitably move in the direction of highest positivity. In the figure, that is toward the upper right.

We tried to model the EZ asymmetry of **Figure 9.7** and got a positive result. **Figure 9.8** shows a gel bead (approximately 0.5 mm in diameter) sitting on the floor of a chamber. The exclusion zone ordinarily envelops the bead uniformly. However, when we shone extra light from one direction, the EZ grew larger in the direction of the light. Hence, the asymmetry implicit in **Figure 9.7** is physically realizable.

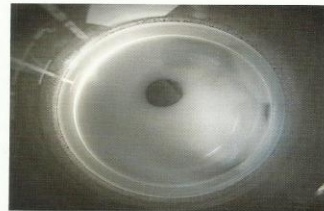
Next, we tested whether a negative EZ moves toward positive charge, as **Figure 9.7** implies. To do so, we used a different setup. We positioned an assembly, consisting mainly of a long ribbon, horizontally in an experimental chamber so that the ribbon's edges lay at the top and bottom. The ribbon was cantilevered from one end (**Fig. 9.9, part a**). Near the opposite, free end, we bonded a Nafion tube to one end of the ribbon.

When we exposed the ribbon-Nafion assembly to water, the EZ grew around the Nafion, releasing protons in the usual way. However, the ribbon was large enough to block proton diffusion.

Here we have bacteria exposed to light.....with no need for motility, the bacteria are drawn to the light source (whether they like it or not!).

Bacteria do much the same (Fig. 9.11). They move toward infrared light in the same way that the microspheres above moved toward the restricted light beam. The bacterial movement was hypothesized to arise from an infrared sensor lodged inside the cell.¹⁰ While that might be the case, the movement toward light so closely resembles that of the microspheres that one may rightly ask whether the physical mechanism under consideration might be at play.

A third example: do you recall the vertically oriented, microsphere-free cylinder that formed near the middle of the beaker? I introduced this anomaly in Chapter 1. Initially, the microspheres were distributed uniformly throughout the beaker of water. Eventually they migrated toward the beaker's periphery, leaving a vertically oriented cylinder devoid of microspheres (Fig. 9.12). What drew those microspheres, we found, was the light impinging on the beaker from all directions. That incident light drew the microspheres toward the beaker's periphery, leaving the middle empty.



Once the cylinder formed, we could further investigate the effect of light. Shining light from one side quickly drew the microspheres toward that side; the shift displaced the cylinder progressively toward the illuminated side, where it eventually collapsed into nothingness. This happened within a minute or two.¹¹

We have seen similar light-mediated displacements in other configurations. For example, we attached a gel disc to one end of a tall, cylindrical chamber, which we then filled with water and microspheres;



Fig. 9.11 Bacterial cells and particles move toward the point of highest light intensity.

Fig. 9.12 Microsphere-free zone in a beaker (viewed from above). Running from top to bottom, the clear zone appears near the center of the aqueous microsphere suspension.

EZs explain Brownian Motion

Ensemble Dynamics

The remaining issue is just how those light-driven displacements create the seemingly random motions characteristic of Brownian phenomena. Up to now, we have focused on the single particle: incident light creates an asymmetric charge distribution around the particle, which draws the particle toward the highest positive charge and hence toward the highest-intensity light.

When multiple particles populate the water, the scenario grows more complex (Figure 9.14). One microsphere's EZ generates positive charges. These positive charges attract neighboring microspheres, which move in response. They move along with their EZs and clinging hydronium ions. These movements alter the regional charge distribution. They may also block or unblock light pathways to other microspheres, and so on. The dynamics become so complex as to seem random.

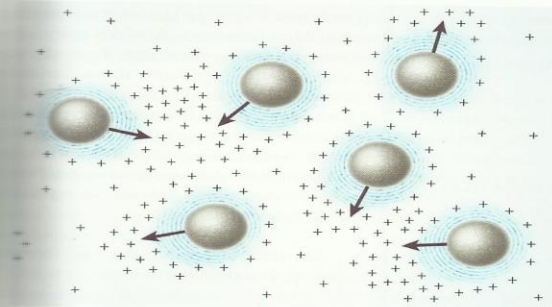


Fig. 9.14 Charge distributions surrounding microspheres in suspension. Arrows denote anticipated directions of movement of negative particles toward positive-charge maxima. Directions will continually change as particles move.

To complicate matters further, positive ions liberated from one EZ may affect the size of another microsphere's EZ: we found that EZ size depends on local positive ion concentrations. Hence, the multiple particle scenario becomes complex enough to make deterministic predictions of particle movements practically impossible.

Any structure will generate EZs in adjacent water

Hydrophilic structures produce negatively charged EZs which have a honeycomb structure.

By contrast hydrophobic surfaces produce positively charge EZs which have a diamond like structure called clathrates.

Folded proteins and lipids will have a combination of the two – and we know these structures are remarkably stable

Essentially these water structures hold information

Can this information be transmitted to a third party?

Does Radiant Energy Carry Information?

Water emits radiant energy. Most of that energy comes from bulk water, but the EZ emits some energy as well. The wavelengths emitted from the EZ depend on its structure.

While the EZ structure has a generic aspect (Chapter 4), variants are anticipated. EZs build from surfaces with unique charge distributions. Those unique distributions will necessarily create variants of the generic EZ structure. Hence, the energy radiated from the EZ could contain surface-specific information.

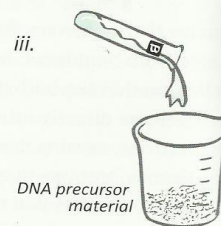
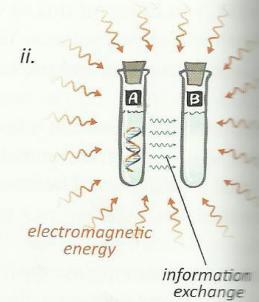
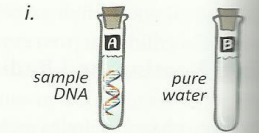
If so, then EZ water may radiate information in the same way that TV station antennas radiate information. The radiated energy may be more than generic.

What happens when water absorbs the radiated energy? If the radiated energy contains information, then we might expect that information to become blurred or lost. However, if some of the energy's vibratory modes induced new EZ structural variants, then some information could be retained. Any such retention would amount to nothing less than electromagnetically communicated structural information — a kind of water-based email.

While any such communication might seem farfetched at best, stunning reports from Nobelist Luc Montagnier have lent credence to this kind of information transmission (see figure). Montagnier claims to have successfully transmitted DNA-structural signals to water. He first created an aqueous suspension of sample DNA. Then he placed the suspension in a sealed flask next to a second, similarly sealed flask of water. The flasks stood next to one another for an extended period, while he exposed both to a source of ordinary electromagnetic energy.

The newly "informed" water in the second flask was then combined with the raw materials required for DNA synthesis. This procedure created new DNA. The sequence of that DNA was not random: it was the same as the sample DNA in the first flask. Even though the two flasks had been well sealed and never came into physical contact, the information evidently passed from one flask to the other.^{3,4}

Initial responses to Montagnier's report have been skeptical. However, some scientists, persuaded by reports of electromagnetic transmission phenomena dating back to Gurwitsch⁵ almost a century ago and by the more recent work of Benveniste⁶, are in hot pursuit. At this writing two labs claim that they could confirm Montagnier's finding. It will be interesting to see what develops from these studies.



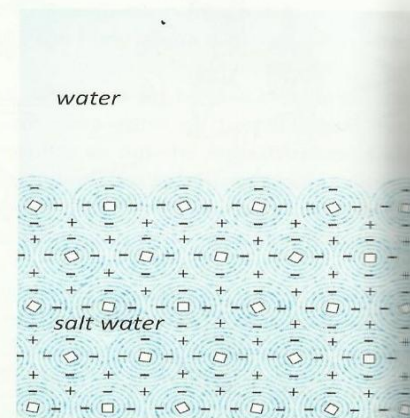
We can use EZs to explain phenomena such as why salt water and fresh water do not mix (for example where the brackish water of the Baltic sea (7grams/Kg salt) meets the North sea (35grams/kg salt) – there is a very clear demarcation



Why Pure Water and Salt Water Don't Easily Mix

The failure of pure water to mix easily with salt water may arise as a consequence of the like-likes-like mechanism. Salt molecules envelop themselves with EZs.⁴ As those EZs build, they generate opposite charges beyond — creating like-likes-like attractions. With high enough concentrations of salt, those EZs pack into ordered arrays, much like colloid crystals (see Chapter 8). Indeed, a long line of optical scattering evidence confirms that dissolved salt molecules pack into massive water-containing clusters.⁵ Those clusters may resemble colloid crystals.

At high salt concentrations, then, EZ water should dominate the lattice space. EZs exclude most everything — including even bulk water (see Fig 11.6, below). Thus, any water positioned next to the salt lattice should remain separated, even over the long term. Such persisting separation would explain the difficulty in mixing river water with salt water.



Water cannot easily penetrate into a “crystal” of salt water.

Osmosis: Another Uncertain Phenomenon

Having considered diffusion, we now flip the coin and consider osmosis — the diffusive movement of water. Since water is a molecule, it should behave like other molecules: its diffusive movements should conform to the same principles, including those derived from external sources of energy and charge-based distractions.

Conventional osmosis theory does not consider energy, but it does at least consider distractors. The distractors are the solids. Suspended or dissolved solids are said to “attract” the water molecules, which then diffuse toward the solutes. The attraction is not conceived as charge based; it is conceived in terms of “concentration”: the water molecules move from regions of higher concentration (such as pure water), to regions of lower concentration where the water intersperses

EZs explain osmosis – where there is a semipermeable membrane .

On the pure water side there will be the normal EZ

On the salt side, the EZ is diminished.....and this creates a proton gradient

Positive hydronium ions are pulled towards the salt solution

- BUT how do the protons get through the EZ water zone? We know this is impossible because it has such a tight honeycomb structure (and indeed this is why the protons get squeezed out in the first place)

Where there is a semi-permeable membrane, EZs build up at a different rate and this leaves a breach which amounts to a portal through which hydronium ions can pass

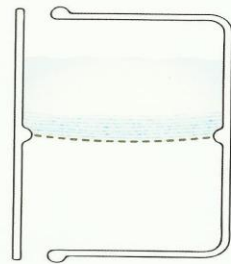
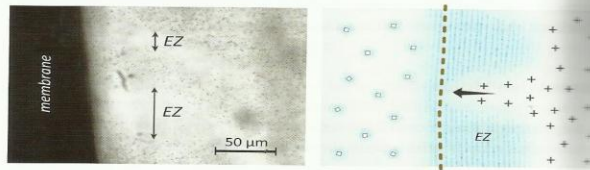


Fig. 11.6 Water fails to penetrate the EZ.

Fig. 11.7 EZ breaches observed microscopically (left). To create the breaches, positive charges invade the negatively charged EZ, eroding it locally (right).



What creates those breaches? Locally developing EZs generate protons. Those protons flow back through the membranous regions in which EZs have not yet begun to build, toward the left chamber (Fig. 11.7, right). This flow inhibits EZ buildup in those latter areas; hence, EZ buildup remains patchy, as observed.

An accident confirmed that expectation. An undergraduate student carrying out an osmosis experiment using an apparatus similar to that in Figure 11.5 returned to the lab one morning to find that he had forgotten to clean up the night before. The salt water had leaked out of the chamber because of a poor seal; yet the chamber on the other side of the membrane remained full. The intervening membrane had not permitted the pure water to penetrate. This surprised us at first, because water evidently does pass through the membrane during the actual osmosis experiment.

Follow-up experiments confirmed the same result: With the salt chamber empty from the start, and the other side filled with pure water, we still saw no transmembrane flow. Even when we tilted the apparatus 90° to generate assist from gravity, the water failed to pass from top to bottom (Fig. 11.6).

The paradox remained: although the EZ mesh is apparently too fine to allow water to pass, water demonstrably flows from one chamber to the other during osmosis. We were completely befuddled.

Visual observation finally resolved the paradox (Fig. 11.7). While EZs ordinarily cover the full area of the membrane, in the osmosis experiment they do not: microscopic exploration uncovered surprisingly large breaches.⁶ Those breaches amount to portals through which the water can easily pass — just as water can pass through holes in a diaphragm. Paradox resolved.

Injury and Swelling

Osmosis plays a role in cell function. Since the cell is packed with negatively charged proteins, the cytoplasm should generate an osmotic draw (commonly referred to as osmotic pressure) similar to the osmotic draw generated by gels, tissues, and diapers. Physiologists know that it does.

A peculiar feature of cells, however, is their relatively modest water content. Compared to 20:1 for many common gels, the water-to-solids ratio in the cell is only about 2:1. The cell's many negatively charged macromolecules should generate a strong osmotic draw; yet the water content in the cell remains low. That limited water content may come as a consequence of the macromolecular network's stiffness: cellular networks typically comprise cross-linked tubular or multistranded biopolymers. The resultant stiffness prevents the network from expanding to its full osmotic potential.

If those cross-links were to disrupt, however, then the full power of osmotic draw would take effect; the tissue could then expand enormously. In experiments with single muscle fibers, we could see this expansion all too frequently: when the experimenter's forceps inadvertently slipped, local damage created a knot that could rapidly expand up to some ten times the diameter of the rest of the fiber. The banding structure was locally disrupted, and water evidently invaded from outside to swell the tissue. At that stage, we knew that the experiment was ruined.



Example of post-injury swelling.

Swelling occurs similarly when body tissues are injured, especially with dislocations. The injury disrupts fibrous macromolecules and cross-links, eliminating the restraining forces that keep osmosis at bay; osmotic expansion can then proceed virtually unimpeded.

The reason why swelling can be so impressive is that the disruption occurs progressively. Breaking one cross-link results in higher stress on neighboring cross-links; so disruption progresses in a zipper-like fashion. When that happens, the osmotic rush of water into the tissue can continue practically without limit, resulting in the enormous immediate swelling that is often seen. The tissue will return to normal only when cross-links repair and the matrix returns to its normally restraining configuration.

Deuterium is heavy water D₂O which has a hydrogen ion containing ie one proton one neutron and one electron

Most water has deuterium at 150ppm ie of one litre of water approx. one drop will be D₂O. Ditto body fluids.

In the body, the total weight of D₂O is 9x that of Mg and 4 x that of Ca. It is present in significant amounts!

D2O has physiological actions

More deuterium results in cancer because there is:

More rapid cell division

Slower generation of ATP (remember the Warburg effect)

Disturbance and disruption of EZ zones so all cell processes are less efficient

Deuterium depleted water is of proven benefit in treating cancer

It is possible to make DDW. D2O has a higher freezing point than H2O so glacial runoff water has a lower D2O level. It is deuterium depleted. People living in areas of glacial runoff live to great ages!

What happens when you give cancer patients DDW? But it is expensive!

Four studies on patients with stage 4 lung cancer doubles survival time

Stage 4 breast cancer survival extended from 12-31 months becomes 52 months

Early breast cancer survival 15-15 years - two courses of DDW in the first 5 years extends survival to 24.4 years

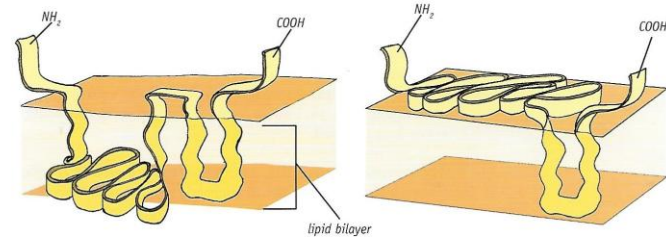
Prostate cancer survival extended survival 15-20 months to 64.8 (mean) months

What about cell membranes and membrane pumps?

We have so many problems with explaining membrane pumps because there have been so many described (currently over 100 different membrane pumps).....BUT cells do not have the energy to power these! It has been calculated that the sodium pump alone accounts for 30-35% of the cell's entire energy supply.

Ling calculated that the energy to power all postulated pumps exceeds the cell's ability to generate such at least 15 and up to 30 fold. And that does not take into account intra-cellular membranes such as mitochondria (20 x cell surface area) or sarcoplasmic reticulum (50 x cell surface area)

The idea is that we do not have membrane pumps (which require much energy) but proteins lying across and through cell membranes undergo a flip which transports ions to and fro across the membrane. The energy involved is tiny AND recycled



light just as rhodopsin does in the retina, triggering a response through conformational change (Lewis *et al.*, 1996). As with the channeling action of colicin 1a, the pumping action of bacteriorhodopsin might then be an incidental byproduct, and not necessarily the primary event.

Whether the observed pumping or channeling seen in such molecules could be of functional significance would depend on their magnitude: If the "pump" molecule translocates relatively few ions, its contribution to cellular ion separation would be small. And if the "channel" fails to carry the lion's share of ion traffic through the membrane, it too would play little or no role in partitioning. Even though experimentally observable, pumping and channeling by these proteins would then remain functionally insignificant—much like the heat generated by a light-bulb.

It seems, then, that this section's conundrum may be resolvable. Although tests imply that the proteins under consideration can "pump" or "channel," such processes may be incidental to the proteins' main functional role as receptors. Receptor proteins are often closely linked to pump and channel proteins in order to "modulate" their activity; here they merge into a single unit whose contributions to ion partitioning may be entirely secondary.

Figure 1.6. Channel protein that opens by flipping from one side of the membrane to the other. After Slatin *et al.* (1994).

So how does this translate clinically?

- A. Gel water or structured water - this is near solid and explains why, despite water making up 2/3 of our body weight, we do not simply collapse onto the floor like a jellyfish!
- B. All membranes become negatively charged - the thicker the honeycomb structure the higher the charge - this may be up to minus 200mV. This is used to supply energy to the body.
- C. Exclusion zone (EZ) water explains ion pumps which are an intrinsic part of EZ water - ion pumps “top up” the natural phenomenon of EZ water.

All membranes in the body are negatively charged – this reduces friction

- In the bloodstream this prevents red cells, white cells and platelets from sticking to each other. So it's easy to see that maintaining EZ water is essential to prevent sticky blood and clotting. Measurements of ESR (erythrocyte sedimentation rate) and plasma viscosity are indirect measures of EZ water. This is because if the membranes are well charged then cells cannot stick together so they don't settle AND the viscosity of blood is reduced.
- What we also know is that a high ESR is symptomatic of inflammation. This tells me that there is a direct relationship between inflammation and EZ water. It makes me think that inflammation is all about friction. Reduce the friction and you reduce the inflammation.
- In the capillaries, EZ water explains how blood can flow. There is no pressure difference between the arterial blood and the venous blood. Furthermore capillaries are about 5 microns in size whereas red blood cells are 8 microns in size. The negative forces between the lining of the capillary and the membrane of cells squash blood cells into a shape so they can pass through the capillaries. As the blood passes into the venous side the electrical forces push these cells back into shape and this creates an electrical and mechanical suction which pulls blood through the capillaries. Once the flow is established it continues. (so for example after death, if the body is kept warm then blood continues to circulate, albeit slowly, for several hours). So good EZ water is essential for the circulation of blood in the capillaries. I think of this as reducing the mechanical friction in the system.

....and reduces biochemical friction

- EZ water also forms around molecules and are at least responsible for part of their shape. The shape and 3D position of molecules is absolutely vital for their action - for example in the production of energy the respiratory enzymes in mitochondria have to be very accurately positioned in order to work efficiently. Poor quality EZ water means these enzymes will function more slowly. Thus mitochondria go slow and this results in the symptom of fatigue. I think of this as a biochemical friction in the system
- EZ water coats all connective tissue and this allows our limbs, muscles and tendons to move around in a frictionless way. The negatively charged surfaces repel each other like a couple of magnets and abolish friction between surfaces.
- EZ water coats many molecules so that they are rendered water-soluble and can be carried in the blood stream. An example of this is cholesterol - much can be carried as cholesterol sulphate in the bloodstream, that which cannot is carried in lipoproteins. This explains why the total cholesterol is never the sum of the HDL and the LDL cholesterol. The difference is cholesterol sulphate. A high total cholesterol may be symptomatic of low sulphate (ref Stephanie Seneff).

<https://waterjournal.org/current-volume/seneff/>

So what interventions can we put in place in order to improve exclusion zone (EZ) water?

1. We need good quality cell membranes to provide a good hydrophilic surface. These are comprised largely of saturated fats interspersed with omega six and omega 3 and cholesterol. So eat lots of butter, coconut oil, meat lard (beef, pork, lamb, goose and chicken fat), fish (omega 3) and nuts and seeds (omega 6). NOT seed oils!
2. Water that is low in deuterium. Perhaps the most complicated molecule that is most essential to life is ATP synthase. There are around 32,000 of these nanomotors per mitochondrion and cells contain thousands of mitochondria. To generate ATP, ATP synthase spins at 9,000 rotations per minute, faster than a jet engine. This is highly dependent on EZ water to hold atoms in the perfect 3D space. EZ water is broken down by deuterium. The reason why energy generation is so complex is because it has much to do with weeding out deuterium before it gets to ATP synthase (the final step of ATP creation). As plants absorb water, some of the deuterium is filtered out. So consume as much water as possible from eating fresh or frozen meat, vegetables and berries. Juicing and smoothies ideal! . Fat is naturally very low in deuterium – use this to fuel mitochondria. Furthermore being in ketosis generates metabolic water - this has already been through energy generation and so is low in deuterium
3. Background radiation especially heat in the form of far infrared. For EZ water to form it needs some background energy and this comes from FIR. We get FIR naturally from sunshine (this is why we feel so good when sunbathing because the whole body is warmed up and all the above functions are improved), we also get FIR from mitochondria when ATP is used to generate heat. This explains why athletes function best when they have “warmed up” - the body works most efficiently when biochemical and mechanical friction are minimised. So, sunbathing is good, so are infra red saunas, ultrasound

So what interventions can we put in place in order to improve exclusion zone (EZ) water?

Sulphate is especially important for EZ water. Most people are deficient. You can get biologically available sulphate from:

- i. Bone broth, meat, fish and eggs
- ii. MSM (methyl sulphonyl methane) - for 3 months take 3-4 teaspoon daily to restore levels of sulphate, then ½ tspn daily to maintain levels
- iii. Epsom salt baths
- iv. Garlic and sulphur rich vegetables
- v. Glutathione
- vi. DMSO - dimethyl sulphoxide we know improves EZ water
<https://www.sciencedirect.com/science/article/pii/S0005273604001336>
- vii. Vitamin B12 is essential for sulphate metabolism - -and this impacts in a multiplicity of ways (and I think explains why so many pathologies such as multiple sclerosis, Crohn's disease, ulcerative colitis, chronic fatigue syndrome, peripheral neuropathy, upper fermenting gut, foggy brain and dementia, rheumatic conditions, arterial damage, benefit from vitamin B12 by injection). Essentially these pathologies are unfortunate side effects of our bodies attempts to generate sulphate to compensate for local low levels of B12 (without which EZ water cannot be sustained within tissues and the bloodstream.)
- viii. Steroid hormones - this may explain why steroid hormones have markedly anti-inflammatory effects - they are essential for our health in the right doses. <https://pmc.ncbi.nlm.nih.gov/articles/PMC4591525/>

Agents known to enhance biological function (turmeric, Holy Basil, Lactobacillus CC, coconut water, aspirin, acetaminophen), resulted in EZ expansion if given in physiological doses
<https://pmc.ncbi.nlm.nih.gov/articles/PMC6122250/> There are likely to be many more!

What destroys EZ water?

1. Poor quality cell membranes. The best example of course is a general anaesthetic! These work by destabilising cell membranes - the more lipid soluble the anaesthetic, the lower the dose you need to get an effect. If you destroy fourth phase water then the brain and nervous system simply cannot work properly and you go unconscious. Alcohol has a similar effect as do any other solvents. We saw this in the Meyer Overton correlation for anaesthetics

2. Insufficient water (dehydration). That does not mean to say we should drink loads of water - you can drink pure water but you cannot pee pure water! Extra water must be accompanied by ALL minerals since most are lost in urine (the kidneys only scavenge sodium).

3. Cold – hypothermia is characterised by stiffness (ie friction). Poor energy delivery mechanisms will result in low body temperature and so EZ water layers thin.

4 Deficiencies:

- lack of sulphate
- poor methylation – high homocysteine, low levels of B12 (in Japan anyone with a B12 below 500pmol/l is considered deficient) We know that high levels of homocysteine is a risk factor for arterial disease, dementia, cancer and chronic fatigue syndrome.

5. Toxins: directly

- Glyphosate - <https://pmc.ncbi.nlm.nih.gov/articles/PMC6122250/> (It also disrupts the synthesis and absorption of vitamin B12, chelates zinc, iron, cobalt and molybdenum (so sulphite oxidase is blocked to sulphate cannot be made)
- I guess sugar (but I cannot find any evidence YET)
- I guess spike protein from Covid vaccines (but I cannot find any evidence YET)

6. Toxins indirectly

- Prescription meds – eg metformin through its tendency to inhibit the absorption for vitamin B12 from the gut
- 5G https://www.drmyhill.co.uk/wiki/5G_%E2%80%93_the_WHAT_the_WHY_and_the_HOW

7. And many other things yet to be discovered!

I do not believe it is possible to drink structured water! There are many expensive devices advertising such, but the structure of water is uniquely dependent on local factors - viz good membrane structure, good biochemistry and far infrared heat

How EZ water relates to inflammation?

As can be seen from the above ALL the factors that damage EZ water are associated with inflammationand vice versa. This makes me think that the fundamental mechanism of inflammation is the friction (physical, biochemical and immunological) generated by poor quality EZ water. This makes clinical sense and has clinical applications.

Reprogram or reset the affected area with pain genie

Where there has been tissue damage, 4th phase water is lost and so tissues stick together because the electrical forces that normally keep them apart have been lost. A good example of this is frozen shoulder – all movements are very painful because the complex of membranes, tendons and such connective tissue are stuck together. It can be treated under general anaesthetic by forcibly moving the shoulder! Oddly this does work – I think the mechanism has to be that the stuck membranes are forcibly separated so 4th phase water can re-establish.

However, this is not practical for all such episodes of sticky membranes – we can achieve the same with pain genie. This uses electrical forces to “un glue” the electrically stuck membranes and restore normal 4th phase water. This includes repetitive strain injuries, bursitis (eg tennis elbow), arthritis, sports injuries, frozen shoulder, gout, migraine, back pain, sciatica, whiplash, fibromyalgia and much more.

How to use pain genie

See <https://www.paingenie.com/>

1. Turn it on and chose a power level - start low and build up slowly
2. Go to where the pain is greatest, place the head of the pain genie on the skin over the site of the pain and first move it in all directions in the shape of a cross, north, south, east and west. The scenar should move smoothly over healthy areas, but where there is pathology (ie loss of 4th phase water) there is resistance to movement of the scenar so that it feels “sticky”. I think this stickiness must be electromagnetic! The direction of greatest stickiness tells you which direction to brush the scenar with repetitive light stroking movements, in that direction, until the stickiness has gone. The technique is the same regardless of which part of the body is being treated. Continue brushing the area in the sticky direction and expect the stickiness to lessen over about one minute. This should be paralleled by a reduction or elimination of the pain. Repeat as often as is necessary to control the pain and allow full healing and repair. See this video showing its use -

https://www.paingenie.com/store/pain-genie-devices/paingenie_scenar#prettyPhoto/1/

It is not possible to cause damage with the pain genie as it is simply restoring normal electrical forces within the body

Remember the effects of pain genie will be greatly improved by attention to all the above. Inflammation destroys 4th phase water so also put in place all things anti-inflammatory. See <https://drmyhill.co.uk/wiki/Inflammation>

More info and training here <https://scenarworld.co.uk>