

## No. 4: Super Salad & Working Lunch

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### 'False hope' in hunt for genetic cures

By Richard Alleyne and Kate Devlin

A LEADING scientist has claimed that the hope that genetic research could provide a cure for a host of common illnesses has proved a "false dawn". Prof Steve Jones, a geneticist, said the belief that a few genes held the key to ridding the world of conditions such as cancer and diabetes had proved to be "false hope".

In some cases, hundreds of genes are responsible, and often they have less effect than other factors such as diet, lifestyle and the environment.

Writing in *The Daily Telegraph* today, the academic and author called for a complete overhaul of the "wait-and-see" approach to genetic research, which is backed by millions of pounds in funding by governments and medical charities such as the Wellcome Trust.

Prof Jones said he was one of a number of "renegade" scientists who were beginning to question the research. "It's not done to kill the goose that lays the golden eggs, nor to

course there have been some successes, but it is the 'bureaucratic' aspect of the work that has proved unhelpful.

"It is the nature of the business that occasionally you get ahead in the wrong road and that's pretty much what has happened here.

Hundreds of millions of pounds were pumped into research into genetics after scientists mapped the human genome in 2003 and there were some early successes with rare inherited diseases such as Huntington's. Scientists embarked on a search for major genes responsible for just about every modern malady, hoping such conditions could be blamed on a small set of genes - which could then lead to a cure.

But the more they investigated, the more complicated they realised finding a cure would be. Many individual genes play little about the overall risk of illness, and they found diet and the environment had a significant influence on the development of disease.

Genes when scientists have identified genes linked to conditions such as diabetes and Crohn's disease they have discovered that they account for less than 10 per cent of inherited influence.

Prof Jones said it may be time to "stop throwing good money after bad".

"Sometimes there has been a series of revolutions of diminished expectations. It doesn't look very optimistic," he said.

"We have wandered into a blind alley and it might be better that we come out of it and start again."

However, Prof Marcus Pembrey, a clinical geneticist and chairman of the Progress Education Trust, a think tank on genetics, denied the research was a waste of time or money.

"There is nothing wrong with genetic research and it had some breakthroughs but it has not worked out to be the panacea that it was first hoped," he said.

Prof Pembrey said the focus of research should be on studying human genes and how they are affected by and interact with the environment, especially when people are young.

Prof George Eyles, a professor of clinical neurology at Oxford University and an expert on genes, said: "There has been disappointment in this field."

"The expectation was that there would be a lot of important things found and that has not panned out. However, there were small things we are aware which do have important significance. One gene found for multiple sclerosis, for

multiple sclerosis, for example, has been replaced with optimism."

Continued from Page 1 instance, does not give you the disease but it does tell me more about how it is caused in the body.

"These are things we would not know had we not gone through this process."

Prof John Burn, a professor of clinical genetics at the University of Newcastle, said genetic research into colon cancer had been a success but it was "the exception that proved the rule".

"People have now a very simplistic hope of the idea that everything that is genetic can be traced back to a simple genetic mistake," Prof Burn said.

"We have seen already with the example of height that yes, there are genes that influence how tall someone is but there is also environment and diet."

"Very large studies have shown that a two per cent variation in height can be controlled by 17 different genes. But we must not throw the baby out with the bathwater."

"Although genetic disorders are rare, with more than 6,000 different genetic disorders, they affect a great lot of people."

Prof Peter Donnelly, director of the Wellcome Trust Centre for Genome Sciences, which funds a number of genetic studies, said: "The pace of genetic findings is changing at an immense rate and we are now able to map human variation in health and disease on a scale unimaginable even just a few years ago."

"It may be years - decades, even - before this knowledge is translated into new treatments, but such research is essential if we are to make progress."

Prof Jones also gave warning that thousands of people were "wasting their money" on genetic tests - an industry that is to be examined by The Health Protection Agency.

The Nuffield Council has already said that expensive private health "tests" including the use of DNA profiles to predict the risk of developing deadly diseases, could be doing "more harm than good".

But it is the main thrust of Prof Jones' argument that has sparked debate among his colleagues.

Prof Jones said: "Whatever the paradigms of science decide to do with their Eureka of sorts, it is time to turn to one of the few practical people, for their moment, but not much more than a moment."

"And what was that advice about knowing good money after bad?"

This was The Daily Telegraph headline on Tuesday 21st of April. Why is it that the only time health hits the news is because someone has found some more bad news to tell.

The article starts with: 'A leading scientist has claimed that the hope that genetic research could provide a cure for a host of common illnesses has proved a "false dawn"'. Prof Steve Jones, a geneticist, said the belief that a few genes held the key to ridding the world of conditions such as cancer and diabetes had proved to be plain wrong'.

But then wait a minute, what's next? 'In most cases, hundreds of genes are responsible, and often they have less effect than other factors such as diet, life style and the environment'. And then hidden away well down the article 'Even when scientists have identified genes linked to conditions such as diabetes and Crohn's disease they have discovered that they account for less than 10 per cent of the inherited influence'. You mean (shock horror) that, except for a few cases, our genes don't ultimately control our fate and it is the things we eat and the things we do during our lives that does? You mean that I can actually take control of my own health and don't have to feel a victim of my biology? Ok, maybe I'm missing something. Why is this bad news?

What if, with the same information, The Daily Telegraph headline had read...

### Scientists discover we can control up to 90% of our own health

Why is it that newspapers do not think this sort of headline will sell papers? Could it be that it's not the type of information people want to hear? And why is that? It's not so far fetched. The statistics show that **80% of people with type 2 diabetes are overweight**. A major study in the US found that men who **walked for just 30 minutes a day had a 50% reduced mortality rate** compared to the control group who did no exercise. 50% greater chance of making it through tomorrow if you go for a 30 minute walk today (well sort of) and men who are classed as **physically very fit have a 70% reduced mortality rate**. The research has been carried out on men but I don't see why it should be much different for us girls. Those are just a few such statistics

from many. When you start to add them all up you can easily see how even though we can never control it all we can quite easily vastly improve our own odds.

Of course at this point someone will always tell a story of a guy they knew who ate nothing but chips, sat on the sofa and drank and smoked and lived quite happily into their eighties or the tragedy of another who ate well and ran every day and didn't make it into his fifties. Both of which happen, we know; the uncontrollable 5% at either end of the probability spectrum; the exceptions that prove the rule. Nobody can tell anybody how to live their lives and I'm certainly not about to. I'm not even sure I agree with banning smoking in pubs. But I do believe we should all have the information we need to make informed choices and not whittle our life away in denial. Life is a lottery but fortunately it is one in which most of us can significantly stack the odds. We all make our choices and face our odds. I just want mine to be bigger than 5%.

What if scientists had discovered a drug that if given to everyone in the country would reduce the incidence of major and even minor illnesses by up to 90%? Wouldn't every paper be headlining the next morning with....

## **Miracle drug to improve Nations health by up to 90%**

Miracle indeed, and that's the problem. As long as we hold out for these miracles and sit in denial holding onto those exceptional stories we miss what is there for every one of us, cheap, available and attainable right now. As one of my rowing colleagues used to say "There is no short cut to anywhere worth going" and this applies to our health as much as any other area of our life.

And it's not just our physical health our mental health is also largely controlled by our lifestyle. Recent research published in the Journal of the American Medical Association suggests that eating a Mediterranean diet and exercising regularly puts people at significantly lower risk of developing dementia. More than 1000 people in New York with an average age of 77 were monitored for 5 ½ years by Columbia University Medical School. Those who exercised the most and ate a diet rich in fruit, vegetables and fish were **60 per cent less likely to develop Alzheimer's disease.**

So, I can tell you about some real live miracle drugs you can go and get hold of right now (shh! or everyone will want them).

**Miracle Drug No 1: The antioxidants** found primarily in fruit and vegetables.

I imagine you are sitting down somewhere reading this so look at your arm, or your leg, or any bit of exposed skin. Looks pretty peaceful doesn't it? A

little bit freckly maybe if it's like mine but otherwise if you are sat at rest there's not much going on right now - right? Wrong. Inside every cell in your arm, your leg, your everything and in every drop of fluid that baths these cells there are battles being fought. Battles between the loose cannon free-radicals zipping around wantonly knocking bits off your cells (and the DNA inside those cells), and the defences your body has evolved to keep them in check - namely the antioxidant vitamins it gets from your diet.

Free radicals and anti-oxidants are at war in your body every minute of every day and the simple fact is that if we don't send down enough anti-oxidant reinforcements on a regular basis, the free radicals win too many battles and eventually win the war. They knock our cells around too much, they cause too many DNA mutations, our cells age prematurely, our organs (heart, brain etc.) start to fail and we get cancers. Nice.

The anti-oxidants in the fruit and veg. are not optional extras for health nuts hoping to live forever. Because of the way we have evolved we need anti-oxidants just to have a normal base line capacity to deal with free-radicals and limit their damage. Our body cannot function without them; if they are not in our diet the odds are we are going to get ill. It might be a cold or it might be cancer but the minor illnesses are probably a good early warning system from your body letting you know it needs more help. Free-radicals are everywhere and are even released in the metabolism of our food so there is no getting away from them. But don't panic. Our bodies are brilliant and have evolved a mechanism to co-opt an anti-oxidant army to neutralise the free-radical threat.

Our problems start when we stop feeding the army by taking the fruit and vegetables out of our diet. Why would we do that to ourselves?

Hence Al's....

**Guiding Principle No. 1: Half of everything we eat should be fruit and vegetables (8-10 portions a day).**

This comes from research that suggests that people who live active, healthy lives into their old age tend to have been eating 8-10 portions of fruit and vegetables a day throughout their lives. 8-10 portions a day is the government advice in many Scandinavian countries where they base their advice on the research rather than on what they think won't freak people out too much. Our National advice of five a day is based on the later. 5 a day is of course better than none but if you follow some of my recipes it is so easy to get to 8-10 a day that it doesn't seem to me to make any sense not to.

The great thing about this principle is that if we adopt it, we cannot but help to transform our diets in a way that 5 a day never can. With 5 a day we can

just add in an apple of two and continue pretty much as we were. But if half of everything we eat is fruit and vegetables then we have to radically alter our diet and automatically start to cut down on the fat, saturated fat, trans-fats, sugar, salt, refined carbohydrates, processed food and calories. So, the health benefits come not just from the additional good stuff we are eating but also from unfavourable stuff we are not.

For much more information on antioxidants and a recipe see Al's Top Tips recipe No.2 - Lycopene Soup (now available on my website [www.alisonmowbray.co.uk](http://www.alisonmowbray.co.uk)).

## **Miracle drug No 2: The Omega 3 fatty acids particularly found in fish and seeds**

I could sing their praises for hours (you never want to get stuck next to me on the train) but just one of the Omega 3s many benefits is that they thin our blood so have the same protective effect against heart attacks as taking aspirin. But then it's not that they thin our blood, it's that our bodies and blood evolved with lots of Omega 3s in our diet because of our hunter/gatherer, fish catching/seed picking life-style. Therefore **we need Omega 3's in our diet just to have normal blood consistency**. If we don't have them in our diet that's when our blood starts to thicken and that's when we start getting problems with heart attacks and strokes and that's when Doctors tell us we need to take drugs like aspirin and the anti-coagulant Warfarin (also used as rat poison) to thin it down again. Why would anyone take rat poison when they can eat themselves healthy?

It seems we need Omega 3s in our diet to be normal in a lot of ways. To repeat a couple of my very favourite research statistics:-

- Even if you are so sick that you've already had one heart attack eating just one serving of oily fish a week cuts your likelihood of having another heart attack by a third.
- People who eat any sort of fish just once a week are 60% less likely to develop Alzheimer's

And there's much more. Take a look at No. 3 - Mega mix muesli if you are interested or yet to be convinced.

So to Al's....

## **Guiding Principle No. 3: Eat more fish and flax**

These are the best sources of Omega 3s and are pretty easy to incorporate into our diets.

From everything I've heard and everything I've read I'm convinced that making these two changes alone significantly improves our short term and long term health. Feel better now and feel better later.

And I really do believe a change in your diet can make a difference and very quickly.

**Case study 1** - lets call him Dave. Dave was a participant on a Mental Toughness workshop I was running for an investment bank, part of which looked at nutritional ways of increasing personal resilience. I went to meet with him a few weeks later and as I walked towards him down the corridor, before I'd even got to him he was talking enthusiastically.

"I've been doing that thing you said".

"What thing?"

I was confused. If there's one thing I'm known for it's saying a lot of things, I shouldn't be expected to pin point one with no warning.

"That fruit and vegetables thing, it's fantastic. I've got so much more energy".

"Cool"

"Yes it is"

We were still walking towards the meeting room.

"Last night for instance I went out for a meal with some mates to a steak house. Normally I'd have had a huge steak and a plate of chips. Instead I had a small, really good steak, loads of vegetables and a salad. I really enjoyed it and this morning I work up feeling light and with loads of energy. Normally I'd have felt really full and sluggish. And I think it's making it easier to control my weight".

All this from a guy in his early 30's who regularly played rugby; he wasn't particularly unfit or unhealthy but just that one change had still made a significant difference and within a number of days not years.

Despite accumulating anecdotal and scientific evidence people often seem to want some sort of absolute proof before they will even try changing their health by changing their lifestyle. This seems a little odd to me because if a drug company released a drug with absolutely no side effects that they claimed increased your chances of living into healthy old age by up to 90% and it was easily and cheaply available in the shops, how many people do you think would demand to read all the research and wait for absolute proof before they took it?

Take vitamin tablets for instance. Well, I don't obviously as you'll know if you've read any of these before. Why don't I? Because there is no evidence they make any difference except to a small minority of severely malnourished people when given in very large doses. Our body just can't assimilate them in the same way as it can from our food and mostly they pass straight through. The perceived wisdom is that when you take vitamin supplements you are

just paying to produce very expensive urine. Also, they don't have the additional health benefits associated with eating the whole foods. And yet even when you tell people this they will still take them. Why? "Because I might as well, they don't do any harm and you never know they might be doing some good".

So why don't people feel the same way about fruit and vegetable and fish?

And anyway it's not true that vitamin tablets don't do any harm. When the initial research was carried out in the 70's and scientists found that people who ate a diet high in fruit and vegetables had a significantly reduced incidence of all kinds of life threatening diseases including coronary heart disease and cancers they also analysed their blood and found it to be high in anti-oxidants. Scientists therefore made an extrapolated association between anti-oxidant intake and health. It became a big thing to take vitamins in tablet form to try and cash in on the health benefits these people had got from their diet. At the same time a long term study was started in the States and a large number of people were put on large doses of anti-oxidants in vitamin form to study the effects. A few years ago I heard (while listening to Radio 4 - the source of all knowledge) that they had stopped this study because the group that were given the vitamin tablets had a higher mortality rate than the control group.

It wasn't clear why this was the case but here are a number of theories.

1. By taking the vitamin tablets people thought they were 'covered' and therefore took less care over their general diet.
2. The anti-oxidants are not the whole answer. There are very many more things that do us good in the fruit and vegetables that have not yet been isolated and people taking the vitamins were missing out on those extra factors.
3. Our bodies are not capable of absorbing the anti-oxidants properly in this form.
4. Taking vitamins in high doses interacts with the absorption of other necessary components of our diet.
5. Some vitamins accumulate in the body to harmful levels if you inadvertently take them from different sources. If you overdo Vitamin A by taking it in a multi vitamin and in a fish oil supplement it can accumulate in the liver leading to headaches, nausea, increased osteoporosis risk and damage to eyes and liver. Large doses of Vitamin C can have effects on the stomach.
6. The vitamins are synthetically produced in a factory environment. They could be contaminated.

Most likely it is a combination of some or all of the above plus other physiological and psychological factors.

Anyway, the fact remains. There is no short cut to anywhere worth going.

By the way, in case you think I missed one out.

**Guiding Principle No 2: half of everything we drink should be water (or as good as water.** More of this in a later issue.

So, what do you reckon are your current odds? And what do you feel are acceptable odds balanced against the life-style changes you are going to have to make if you want to improve them? I believe it's up to every one of us to decide this for ourselves.

Thinking you'd like to improve your odds and give taking control of your own health a go but that 8-10 portions of fruit and veg. sounds like an awful lot and isn't fish quite tricky to cook?

You could give this a try. I reckon if you had Power Porridge (No.1) or Mega-mix muesli with fresh fruit (No. 3) for one meal a day (doesn't have to be breakfast), Super Salad, Working Lunch or a homemade vegetable soup like Lycopene soup (No. 2) for a second meal plus a couple of pieces of fruit as snacks - you'd be up to your 8-10 a day and eating more fish and flax already. With enough exercise (remember just a 30 minute walk can make a significant difference to your health) to burn off excess calories you'd then be in credit and could eat pretty much whatever you wanted for your 3rd meal of the day totally guilt free.

That's generally the principle I live by. It seems to me that, except for the fanatical few, abstinence is not fun, it's not sustainable and it's actually not necessary.

Get down the good stuff our bodies need to maintain themselves, exercise off the excess calories and don't worry about the rest. As I've discovered through rowing and my subsequent adventures our bodies are not fragile specimens that need to be treated with excessive care. For the fortunate majority our bodies really are brilliant and naturally very resilient (just think of the hardships we had to survive as we were evolving) and to me, it seems an insult to those not in this category to voluntarily damage our brilliant bodies through our own actions. Especially when it's not that hard. We don't have to run marathons and eat a zero fat diet to be healthy, we just have to give ourselves half a chance and our bodies will sort themselves out, do us proud and carry us pretty much anywhere. Bank every bit of healthy food you eat and every bit of exercise you do as positive (because your body needs and

remembers it all in it's daily construction) and don't beat yourself up for the occasional cake, chocolate, chips or beer and the odd day you lie on the sofa.

Celebrate your body, work with it and help it out by eating lots of fruit, vegetables, fish and flax. It's that simple.

## Super Salad

(Because salad should never be boring)



Contains at least five portions of vegetables, a portion of fish and some seeds all in one hit.

This salad is easiest made using one of those Panini presses/George Forman type grill things (there are lots of options). I prefer the ones with a loose hinge and floating lid. They don't cost very much and are a fantastic way to quick cook a healthy meal. Just put a small piece of fish or meat in there and fill up the rest of the space with a mix of vegetables cut to the same thickness and 5-10 minutes later you've got a perfect meal. Or use it to help you make the following hot salad.

Don't feel you have to use everything here or can't add in other favourites. This is more a suggestion list than a fixed recipe.

## Top Tips

- *Keep a good stock of store cupboard vegetables like those below. Tinned and frozen vegetables are often as good for you if not better than fresh and having good supplies in means you are never short of the basis for a healthy meal.*
- *Butternut squash and sweet potatoes also keep exceptionally well even when cut into so are also very good staples to have around. Their*

*orange colouring is a sign that they contain a much higher concentration of anti-oxidants than white potatoes so their energy/nutrition balance is better and they are a preferable option health wise. White potatoes do not contribute to your 8-10 a day tally whereas these do. Several reasons to make the switch.*

- *Buying the vacuum packs of pre-cooked smoked mackerel is a really easy and cheap way to increase your intake of oily fish. The texture is really meaty and satisfying and the intense flavour means you don't need a lot which helps keep the calorie intake down. Keep a pack in the fridge and if you open it and don't use it all or it is approaching its use by date they freeze fine. Slip pieces of grease proof paper between the fillets before freezing so they don't stick together and you can remove one at a time as needed.*

### **Fresh ingredients**

A handful of mixed salad leaves (including some dark ones like water cress and spinach)

Tomatoes

Avocado

Courgette

Red and yellow peppers

Red or white onion

Asparagus spears

### **Store cupboard standbys**

Pre-cooked, vacuum packet beetroot

Sweet potato or butternut squash

Tinned sweet corn

Tinned beans (any variety except baked)

Sundried tomatoes

Artichoke hearts

### **Toppings (a small portion of one of the following)**

- Vacuum packed smoked mackerel is my favourite and the easiest topping for this salad. Also the best for you because of all the Omega 3's but the advice is to only eat oily fish like this three times a week because they can accumulate heavy metals.
- Foil packed or fresh tuna steak (apparently the canning process removes a lot of the Omega 3's).
- Small tin of sardines in sunflower oil. Fried in their own oil with plenty of garlic (a delicious idea nicked from my brother).
- Prawns
- Chicken
- Smoked streaky bacon
- Slice of goat's cheese

## **Sprinkles**

I like a mix of:-

Pine nuts, walnuts, sultanas, sunflower seeds and pumpkin seeds that I buy ready mixed from the Julian Graves shop. My sister just showed me a neat trick of toasting them in a frying pan with soy sauce which makes them almost too tasty.

Plus I add some linseed (flax).

## **Dressing**

Again ring the changes but my usual favourite is this vinaigrette. Take a small clean jam jar, pour in olive oil up to 1/3 of the height and Balsamic vinegar another 1/3, add a squeeze of lemon juice, teaspoons of grainy and English mustard, a couple of teaspoons of sugar and some salt and pepper. Then put the lid back on and shake vigorously to combine. Taste it and if it's too acidic you might need to add some more oil and/or sugar. As a general rule the better the Balsamic the less acidic it is and the less oil and sugar you will need.

## **Method**

1. Put the grill on to heat up and spray with a little olive oil
  2. Cut a couple of slices from the sweet potato or squash and remove the peel. Put this into the grill first as it takes the longest to cook.
  3. Peel the onion and cut slices the same thickness as the squash – add to grill.
  4. Add a few asparagus spears to the grill.
  5. Deseed the pepper, cut off a few strips and add to the grill.
  6. Cut off about 10 cms of courgette and cut into strips lengthways. Add to the grill last as it only takes a couple of minutes to cook.
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1. Meanwhile...
  7. Make up a plate with the a few each of rest of the cold salad ingredients that you are using from the fresh and store cupboard list. It's up to you whether you mix them all up or zone them on your plate.
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2. Meanwhile....

8. Cook/heat up the fish, meat or cheese topping. Probably best done using the grill on your cooker as the press grill will likely be full by now.
9. When the grilled vegetables are just tender lay them on top of the cold salad in an artistic manner.
10. Sprinkle your sprinkles on top.
11. Pour on some dressing.
12. Cut up your fish, meat or cheese and top out your Super Salad
13. Enjoy several times a week and never get ill again (well almost never).

## Working Lunch

This is for office days when you have to leave the house in a hurry. It works best if you have access to a kitchen at work but at a push you can make this pretty much anywhere if you carry a pen knife. I often take it along as my lunch when I'm walking and am miles from the nearest kitchen so it's definitely doable.

Grab the ingredients as you leave the house and throw them into your sandwich box and you are all set up for lunch time.

The vegetable balance is better than a traditional sandwich, plus the rye bread has a much lower glycaemia index than even wholemeal wheat bread which means it should help you balance your energy levels better during the day and keep you feeling full for longer.

## Top Tips

- *Rye bread can be an acquired taste if you are used to highly processed wheat bread. It takes a little getting used to but persevere because it then becomes strangely addictive.*
- *As good as it is raw; rye bread takes on a whole new dimension when toasted. The sugars seem to caramelize and it is reminiscent of toasted malt loaf.*
- *Rye bread keeps for ages unopened but goes mouldy after a few days once you have opened the packet. If you anticipate not getting through it all then freeze the rest of the pack, slipping pieces of grease proof paper between the slices so they don't stick together.*

- *Philadelphia now does individual portions. This may be more economical if you don't eat it that often because the large packs go off after about a week when opened.*

## Ingredients

- **1 or 2 slices of rye bread** (depending how hungry you get at lunch time).
- **1 tin of mackerel fillets in tomato sauce or 1 foil pack of tuna steaks** (again I like the ones in tomato sauce for this).
- **1 very large beef tomato or 2-3 smaller tomatoes** (cherry tomatoes are not great for this, the juicier and messier your tomatoes the better).
- **Pack of Cream Cheese**
- **Ground Black Pepper** (keep a mini mill at work or nick sachets from service stations)

### Optional extras (for even more anti-oxidant action)

- A small tin of sweet corn (ring pull ones are easiest)
- A small avocado

## Method

1. Toast the rye bread (if you are not half way up a mountain and have access to a toaster).
2. Spread with cream cheese.
3. Flake the fish over the top.
4. Cut the tomato into chunks and add on top (make sure you don't lose any of the juices. I reckon the soggy this gets the better).
5. Add the sweet corn or chopped avocado if using.
6. Finish with plenty of black pepper.