

## **About Andropause (Testosterone Deficiency Syndrome)**

There are many myths, misconceptions and a general lack of awareness about this easily treated hormonal imbalance that research shows affects 20% of men over the age of 50 in addition to an undefined number of younger males. To provide easy to digest, yet authoritative, patient friendly information we have compiled a series of short videos with Professor Tom Trinick covering frequently asked questions about the condition. Below is a transcript of his responses.

Professor Trinick BSc, FRCP, FRCPI, FRCPE, FRCPath, MD, is a highly respected clinician, scientist and key opinion leader on the subject of Testosterone Deficiency in the adult male. The information provided is not meant to substitute the advice of your own physician or other medical professional.

### **About Testosterone**

#### ***What is testosterone?***

Testosterone is a hormone produced from the testes. It isn't stored in the body, it circulates through the blood and it has an effect in producing proteins. So when testosterone hits a cell it gets taken inside the cell and the cell produces the protein. So whatever that cell does, it does a bit more of it with testosterone. If you're talking about a muscle cell, it gets stronger and so it goes across the board; any function you care to think of. Testosterone is anabolic, it builds you up and so it's central to the body.

#### ***What role does testosterone play in men's health?***

Testosterone is essential to men's health and wellbeing. It is the male hormone, that's the way we think of it, and it results in your strength being where it should be, your awareness being where it should be, your concentration being right, it keeps the heart right and the bones right. Testosterone, we're discovering more, is central to a healthy life.

#### ***What is a normal testosterone level?***

The normal range for testosterone runs between 10-30nmol/L from the laboratory. So for a man, if they are 10nmol/L and below, they are going to be outside the normal range; that will be a low number. The lower it gets, the worse the symptoms and there is a scale for that, but you may find men at 12nmol/L will actually be low for them, so it's worth pursuing those men as well.

#### ***At what age do testosterone levels fall naturally?***

It falls progressively from the late 20's, mid 20's or so and it's just something that continues across the rest of your life. Broadly speaking testosterone will halve over the period of your life.

#### ***Can low testosterone levels affect your sperm count?***

Testosterone deficiency usually does result in a reduced sperm count. Sperm are produced from a slightly different part of the testicle from the Leydig cells that produce testosterone, but there is of course a lot of cross talk between the two. Now you need a reasonable testosterone level to be fertile and have a decent sperm count. If we give you testosterone, your fertility will reduce very slightly but we have other means of treating you to raise your testosterone and improve your fertility. So there are a number of options, but this is getting really quite specialised.

***How low does your testosterone need to be for a diagnosis of Testosterone Deficiency Syndrome?***

We think in terms of a level of 12nmol/L and below. Some people would say 10nmol/L and below. Certainly if you hit 8nmol/L that is considered to be pretty much unequivocally low. It needs to be repeated on a second occasion and that really helps towards the diagnosis.

**About Testosterone Deficiency Syndrome**

***What are the symptoms of Testosterone Deficiency Syndrome?***

The symptoms include being tired, generally fatigued, dropping asleep after a heavy meal, night sweats, perhaps changing your body shape, you tend to enlarge around the waist and then you get on to other issues to do with the sexual side of life, so erections may not be perfect, you may lose some of your interest in sex but not wish to admit it. Then you can get things to do with the problem so your bones may thin a bit, you could even lose some height from vertical fractures. There's a wide range of other possibilities, you may find that you get night sweats. In general men feel worn out, they feel that they've reached the end of their lives, that the world is crashing down on them; they may actually feel they are depressed. So you need to talk to your medical advisor and get to the bottom of it.

***Who is at the highest risk of developing Testosterone Deficiency Syndrome?***

These would be older men. We tend to think over the age of 50, they will be men who haven't particularly looked after their health. They perhaps have got slightly overweight, drink too much alcohol, they may have developed diabetes. They need to go and see their health advisor on a regular basis and talk about their symptoms which may then be put together as possible Testosterone Deficiency Syndrome.

***Are there contributing factors?***

Oh certainly. Men who have had a trauma to the testes, men who have had testicular difficulties of one sort or another; because that is the only source of testosterone. Perhaps they have diabetes. So a wide range of factors that come together.

***How many people live with Testosterone Deficiency Syndrome?***

Probably around 20% of men over the age of 50. Figures do vary quite a lot and it's hard to tie down, but our research has shown that a very significant proportion of men over the age of 50 do have this problem to some degree.

***Why is Testosterone Deficiency Syndrome referred to as Andropause or the male Menopause?***

There's a lot of confusion about this, but Dr Vernon many years ago in the 1930's determined that a lot of men were developing symptoms similar to their wives as age progressed and so we got 'male menopause'. It's an inappropriate term and we've simplified it to Testosterone Deficiency Syndrome.

***Is Testosterone Deficiency Syndrome linked to any other conditions?***

It is linked with a number of other conditions, yes. It's linked with being overweight. It's linked with diabetes. It's linked with heart disease. It's also linked with osteoporosis. So a wide range of men's health issues come into the picture.

***Is Testosterone Deficiency Syndrome a serious condition?***

A very serious condition, yes. Because it's hidden, it's slow to accumulate and the effects are really quite far reaching.

***Can Testosterone Deficiency Syndrome kill you?***

The consequences of being testosterone deficient would certainly lead to continuing ill health and yes would lead to an early death.

***Does having Testosterone Deficiency Syndrome make you less of a man?***

Not at all. This is a situation which can be diagnosed properly, can be treated effectively and relatively cheaply, so not at all.

***Does having Testosterone Deficiency Syndrome mean your reproductive life is over?***

No it doesn't. We do have forms of giving testosterone which allow reproductive function to continue. Testosterone as such will reduce fertility very slightly. Most men have completed their family by this stage in their lives, but not all.

***If a man thinks he may have Testosterone Deficiency Syndrome what should he do?***

I think they should go and see their general practitioner and they should raise the issue very directly with their GP. Their GP may not be completely familiar with the condition, but they should be willing to listen and perhaps to pass the patient on to somebody else if they're not as aware as they might be.

***If your GP thinks it's 'just your age', should you get a second opinion?***

I think you should. One of the basic tenants of medicine is that you should get on with your medical advisor and I think that is just good medicine and most of us would say yes certainly second opinions are a good idea.

## **About Diagnosing & Treating Testosterone Deficiency Syndrome**

***How is a diagnosis of Testosterone Deficiency Syndrome made?***

Initially it's an awareness that it exists that's the biggest stumbling block. Once somebody thinks, 'this situation exists, there is a condition Testosterone Deficiency Syndrome', you're halfway there. A good history and clinical examination with a completed questionnaire which points in the right direction, then you're on to measurements of your blood certain blood characteristics and then you're probably on to a trial of therapy lasting 3 months.

***Who diagnoses Testosterone Deficiency Syndrome?***

This would be your GP in the first instance having a sense that this might be the area of concern and then it probably requires referral to the hospital although some GPs are getting very aware of it now and are getting much better at diagnosis.

***What are the treatments for Testosterone Deficiency Syndrome?***

There are two main treatments. The first is a testosterone containing gel that's applied to the skin every morning. Easy to apply, doesn't take long, fairly straight forward. Then we have a deep intramuscular injection that is given about every three months. Again easy to give, well received, not a particular problem. There have been other treatments in the past including implants, tablets, buccal tablets, skin patches but I would stick to the first two. Very straight forward and work well

***Does Viagra help Testosterone Deficiency Syndrome?***

Viagra doesn't work so well in somebody who is testosterone deficient, but then if you're treated about 80% of men do react to Viagra so that's important.

***How effective is treatment for Testosterone Deficiency Syndrome?***

The big comment I get is, 'you've given me my life back' and sometimes it's their wife that will come along and say 'you've given me my man back' and by that they mean that their husband is re-energised, more the man they knew in his 20's possibly and life is back to normal. So it has an immense impact on a man's quality of life.

***How long does it take for Testosterone Replacement Therapy to work?***

Treatment starts to work in a matter of weeks. If we're doing a trial of therapy, in other words, we're seeing how you work with the therapy, how does it work with you, how do you feel? That usually takes 3 months. Now by the end of 3 months you will know whether it's going to work or not. We would find that the benefits, assuming that you need the treatment, continue for up to 2 years. So I talk to patients about turning up the dimmer switch on life. It's not flicking on the switch, it's turning up the dimmer switch.

***How long does treatment for Testosterone Deficiency Syndrome last?***

If you were diagnosed and you need it, then you will be on treatment for life and we like to think that it gives you an important quality of life that just keeps going right to the end.

***Are there any risks associated with the treatment?***

You have to consider the possible side effects of every therapy. Risks? Relatively small. The one complication that can occur is that your blood count can rise. It has been used to treat a low blood count in the past. That means that you need to have blood tests done at intervals, initially quite often, every 3 months or so but over time perhaps every 9 months, every year and that just goes on. It's a sensible, solid precaution but it is an easy treatment and is well accepted.

***What are the misconceptions about Testosterone Replacement Therapy?***

It was initially thought that testosterone replacement could lead to prostate cancer. That has been shown to be absolutely untrue. Then it was thought it might affect the heart but it doesn't affect the heart adversely at all. Then people worried that you would be turned into a raging bull, if I can use that expression and again that doesn't happen. If you are deficient and treated you actually become more tempered in your nature and less depressed and more awake.

***Why do some men resist seeking a diagnosis of Testosterone Deficiency Syndrome?***

Well no man likes to talk about this sort of thing usually and it takes a certain amount of pushing before they come forward. Many of the patients reach a point where they really do need help and at that point they see their doctor.

***What advice would you give a person who thinks their partner may have Testosterone Deficiency Syndrome?***

I would say go and see your general practitioner, get a good discussion going and tell your general practitioner you think testosterone may be a part of the problem because he can get it checked out

***What if they can't get their partner to listen?***

I would say it's very important to listen to your wife. I think that you should be listening to people who are independent and have your best interests at heart. This situation can be treated, the treatments are effective and safe and I wouldn't hesitate.

***Why are so few patients receiving a diagnosis on the NHS?***

I think there is the question of the fact that people don't like to admit these problems. I think there is a difficulty sometimes with money, there's sometimes a difficulty with perception and the doctors are not always as aware as they might be of the condition.

***Is a healthy lifestyle also important for men living with Testosterone Deficiency Syndrome?***

Yes it's important to lead a healthy life and that means eating the right things, watching your alcohol and keeping fit. So those all come together to produce a healthy lifestyle, as well as treatment for conditions.