

PHARMA HIGHLIGHTS ISSUE 83 | AUGUST 2021

## **Updates on Testosterone Therapy**



Male hypogonadism is a condition characterized by inadequate testicular production of sex steroids and sperms; however, the term is more commonly used to identify testosterone (T) deficiency. When fertility is not desired, T replacement therapy (TRT) is the gold standard. The role of testosterone (T) replacement therapy (TRT) in men is still conflicting. In particular, safety concerns and cardiovascular (CV) risk related to TRT have not been completely clarified yet. Similarly, the clear beneficial effects of TRT are far to be established. The goals of TRT are to alleviate clinical symptoms and to restore serum T levels to the midnormal range, without significant side effects or safety concerns. Different T formulations have been approved. TRT is associated with a reduction of fat mass, an increase of lean mass, and a possible positive effect on lipid profile and glycometabolic control. Bone density and depressive symptoms are improved by TRT, while effects on cardiovascular risk and frailty are more controversial. No increase of prostate cancer and prostate-related problems has been reported so far. TRT, alone or in combination with phosphodiesterase type 5 inhibitors, is considered the first-line therapy in hypogonadal subjects with erectile dysfunction. T deficiency is highly prevalent in the aging male and represents a sign of physical and sexual frailty. The significance of low T in elderly men has yet to be completely clarified. Large, prospective intervention trials will help solve this dilemma.

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If you've ever had the flu, you know how sick you can be. Chances are good that some of the advice friends and family gave you about avoiding or dealing with the flu was wrong. Here are 10 myths that have been busted-

Myth 1: Influenza is not serious so I don't need the vaccine

**Fact:** As many as 650 000 people a year can die of the flu. This only represents respiratory deaths, so the likely impact is even higher. Even healthy people can get the flu,

# Myths and Reality of Flu Vaccine

but especially people whose immune systems are vulnerable. Most people will recover within a few weeks, but some can develop complications including sinus and ear infections, pneumonia, heart or brain inflammations.

## Myth 2: The flu vaccine can give me the flu

**Fact:** The injected flu vaccine contains an inactivated virus that cannot give you influenza. If you feel achy or slightly feverish, it is a normal reaction of the immune system to the vaccine, and generally lasts only a day or two.

### Myth 3: The flu vaccine can cause severe side effects

**Fact:** The flu vaccine is proven to be safe. Severe side effects are extremely rare. One in a million people may get Guillain-Barré Syndrome (GBS), which cause muscle weakness and paralysis.

**Myth 4:** I had the vaccine and still got the flu, so it doesn't work

**Fact:** Several flu viruses are circulating all the time, which is why people may still get the flu despite being vaccinated since the vaccine is specific to one strain. However, being vaccinated improves the chance of being







protected from the flu. This is especially important to stop the virus affecting people with vulnerable immune systems.

Myth 5: I am pregnant so shouldn't get the flu vaccine Fact: Pregnant women should especially get the flu vaccine since their immune systems are weaker than usual. The inactivated flu vaccine is safe at any stage of pregnancy.

**Myth 6:** If you have a high fever with the flu that lasts more than a day or two, antibiotics may be necessary.

**Fact:** Antibiotics work well against bacteria, but they aren't effective for a viral infection like the flu. Then again, some people develop a bacterial infection as a complication of the flu, so it may be a good idea to get checked out if your symptoms drag on or worsen.

Myth 7: Do I really need a flu vaccine every year?

**Fact:** Yes. a yearly flu vaccine is recommended by CDC for everyone 6 months of age and older with rare exceptions. The reason for this is that a person's immune protection from vaccination declines over time, so annual vaccination is needed to get the "optimal" or best protection against the flu. Additionally, flu viruses are constantly changing, so the vaccine composition is reviewed each year and updated as needed based on which influenza viruses are making people sick.

**Myth 8:** Is it true that getting a flu vaccine can make you more susceptible to other respiratory viruses?

**Fact:** Flu vaccines are not thought to make people more susceptible to other respiratory infections.

**Myth 9:** Does a flu vaccination increase your risk of getting COVID-19?

**Fact:** There is no evidence that getting a flu vaccination increases your risk of getting sick from a coronavirus, like the one that causes COVID-19.

**Myth 10:** You can't spread flu if you are feeling well. **Fact:** Actually, 20% to 30% of people carrying the influenza virus have no symptoms.

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# Use of AI in Diagnosis of Diseases

Several machine-learning algorithms do exceptionally well in the diagnosis of heart, diabetes, liver, dengue, and hepatitis disorders. The Naive Bayes Algorithm and SVM are commonly used algorithms for illness identification, according to the literature. In comparison to other algorithms, both approaches are more accurate. Prediction can also benefit from the deployment of an artificial neural network. It also displays the maximum output; however, it takes longer than other methods.



Trees algorithms are also utilized, but because to their complexity, they have not gained widespread popularity. They also showed improved accuracy when responding properly to the data set's properties. Although the RS hypothesis is not commonly employed, it provides the best results. Statistical models for estimating that are incapable of producing good performance outcomes have saturated the assessment field. Statistical models are unable to handle categorical data, missing values, or big data points. All of these factors contribute to the significance of MLT. Many applications, such as image identification, data mining, natural language processing, and illness diagnosis, rely on machine learning. ML can help in all of these areas. This study examines several machine-learning algorithms for diagnosing ailments such as heart disease, diabetes, liver disease, dengue fever, and hepatitis. Many algorithms have produced positive outcomes because they properly detect the property. According to a recent study, SVM has a 94.60 percent accuracy rate for detecting heart problems. Naive Bayes accurately diagnoses diabetes. It has a





classification accuracy of 95%. For the diagnosis of liver illness, FT has a 97.10 percent accuracy rate. The RS hypothesis achieves 100 percent accuracy in detecting dengue illness. The hepatitis illness is appropriately classified by the feed forward neural network, which has a 98 percent accuracy rate. The benefits and drawbacks of various algorithms are highlighted in this survey. The improvement graphs of machine learning algorithms for illness prediction are detailed. Based on the results of the investigation, it is obvious that these algorithms improve the accuracy of various illnesses. This survey document also includes a set of tools created by the AI community. These tools are quite valuable for analysing such issues and give opportunities for better decision-making.

On a practical level, practitioners understand the extent to which AI improves the diagnostic process and how the overall healthcare system benefits from it. Medical experts can realize how AI can be applied in diagnosing diseases, which could result in having suitable suggestions for further developing AI approaches. Moreover, medical professionals comprehend which challenges are still needed to be triggered before diseases are diagnosed in collaboration with AI. In terms of implications of society, readers realize that AI is likely to be used in healthcare to diagnose diseases or at least to assist in the process. Nevertheless, the application of AI as a component of the diagnostic process provides opportunities for innovative digital health and is simultaneously able to ensure enhanced patient outcomes.

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