



# MANAGEMENT FILE

by DR CHARLES SHEPHERD, our medical adviser

This leaflet is based on an article which first appeared in the ME Association's quarterly *ME Essential* magazine. MEA membership costs £18 a year for people living in the UK/BFPO. For contact details, see foot of this page.

the ME association



September 2019

# THE 2019–2020 FLU VACCINE

## INTRODUCTION

Seasonal flu (also known as influenza) is a highly infectious illness caused by several types of flu virus. It spreads rapidly through small infected droplets that are coughed or sneezed into the air by an infected person. Even people with mild or no symptoms can infect other people.

As there is no simple answer as to whether you should have a flu vaccine if you have ME/CFS, the purpose of this leaflet is to provide information on all aspects of flu vaccination in relation to ME/CFS. You and your doctor can decide if you ought to have this protection.

## THE SCIENCE BEHIND FLU VIRUSES AND FLU VACCINES

There are three types of influenza viruses. Type A viruses cause outbreaks in most years. Type B viruses tend to cause less severe disease and smaller outbreaks, often in children. Type C viruses cause a minor respiratory illness.

**Type A viruses** are sub-divided by the type of antigens (immune system markers) found on the surface of the virus. These are known as haemagglutinin (H) antigens and neuraminidase (N) antigens. There are 18 types of H antigen and 11 types of N antigen identified so far. These surface antigens constantly change identity by what is called antigenic drift (which involves minor changes from season to season)



and by antigenic shift (where a major change and new subtype of virus emerges). Previous exposure to flu or flu vaccination will not provide protection against these new viral sub-types. So they are constantly monitored by the World Health Organisation to try and make sure that each year's flu vaccine is going to be effective against new and emerging strains of flu virus.

Studies have shown that flu vaccine reduces the risk of catching flu, although protection will not be complete and will vary from person to person. Protection gradually decreases over time and flu strains change over time. So new vaccines are made each year and people at increased risk are encouraged to be vaccinated every year.

There is also some new research evidence to indicate that flu vaccine can reduce the risk of having a stroke.

## THE 2019–2020 FLU JAB

Flu vaccine is offered free on the NHS to people in certain at-risk groups. These are mainly people who are at greater risk of developing serious complications if they catch flu.

The list includes people with a number of pre-existing health conditions – including neurological and immunological diseases, heart and respiratory diseases, pregnant women, obesity and the over-65s.

People who receive a Carer's Allowance, or are the main carer for a sick or disabled person, are also eligible for a free NHS vaccine.

**For 2019-2020 there are three types of flu vaccine available. You will be offered the one that is most effective for your age:**

■ Children aged 2 to 17 in an eligible group are being offered a live

attenuated quadrivalent vaccine (LAIV), which protects against four strains of flu. This is given as a nasal spray.

■ Adults aged 18 to 64 who are either pregnant, or at increased risk from flu because of a long-term health condition, are offered a quadrivalent injected vaccine – the vaccine offered will have been grown either in eggs or cells (QIVe or QIVc), which are considered to be equally suitable.

■ Adults aged 65 and over will be offered either an adjuvanted trivalent injected vaccine grown in eggs (aTIV) or a cell-grown quadrivalent injected vaccine (QIVc) – both vaccines are considered to be equally suitable. An adjuvant is a substance that is added to a vaccine to increase the body's immune response to the vaccine.

The best time to have a flu jab is in the autumn – from mid-September onwards through until early November. It takes two to three weeks for the vaccine to become fully effective.

## DO PEOPLE WITH ME/CFS MEET NHS CRITERIA FOR HAVING FREE FLU VACCINE ON THE NHS?

Having a chronic neurological disease is one of the recommended criteria for NHS flu vaccination, and the classification of ME/CFS in WHO ICD10 as a neurological disease is fully recognised by the Department of Health.

So The ME Association believes that people with ME/CFS should therefore qualify for a free NHS flu jab if they decide to have one.

Dame Sally Davies, Chief Medical Officer at the Department of Health, has also stated in 2014:

*“As you know, the risk of serious illness from flu and consequent hospitalisation and death is higher among those with underlying health conditions such as M.E.*

*“We know that people with chronic neurological conditions are approximately 40 times more likely to die if they develop flu than individuals who have no other underlying health conditions.*

*“The best way for people at risk from flu*

*to protect themselves and their families is to get the flu vaccine. People with clinical risk factors are eligible to receive the seasonal flu vaccine free each winter.”*

## WHEN IT COMES TO FLU JABS AND ME/CFS, KEY POINTS IN FAVOUR OF HAVING THIS PROTECTION INCLUDE:

- Flu vaccination should provide a fairly high degree of protection against the strains that are likely to be around this winter.
- Overall, the vaccine reduces the chances of catching flu by about two-thirds. However, the level of protection given by the 2014-15 vaccine was disappointingly low at around 34%.
- Protection continues for about a year.
- Anyone with serious health problems in addition to ME/CFS such as chest (especially asthma or bronchitis), heart, liver or kidney disease, diabetes, a weakened immune system, or who is taking steroid medication, is particularly at risk of developing serious complications from flu.
- If you have already had a flu vaccine while suffering from ME/CFS, and not suffered any adverse effects, it is reasonable (but not guaranteed) to assume that you should be OK this time round (although the viral make-up of the vaccine is changed from year to year).

## KEY POINTS WHERE CAUTION IS REQUIRED WHEN CONSIDERING FLU VACCINE IN ME/CFS INCLUDE:

There are anecdotal reports of people with ME/CFS suffering a relapse, or even developing ME/CFS, after this vaccine. This could be due to the fact that research into immune system dysfunction in ME/CFS has found evidence of what is called immune system activation.. This equates to a persisting and overactive immune response to a triggering infection. Vaccines are designed to mimic the infection they are designed to protect against. They also

● Serious adverse reactions are very rare with this vaccine although minor transient problems such as malaise, headache and muscle pain do sometimes occur. A full list of potential side-effects is listed later in this leaflet.

● The only published research study into adverse reactions to flu vaccine in people with ME/CFS concluded that people with ME/CFS were no more likely to have a serious adverse reaction than people receiving this vaccine for recommended reasons.

**Reference:** Influenza Vaccination: Is it appropriate for Chronic Fatigue Syndrome? *American Journal of Respiratory Medicine* (2002),1: 3-9).

However, two case reports involving health workers who developed ME/CFS after swine flu vaccination have been reported in the *British Medical Journal*. Both developed moderate to severe symptoms and were unable to return to work.

**Reference:** Should influenza vaccination be mandatory for health-care workers? *BMJ* (2013), 347:f6705. Available online: <https://tinyurl.com/y2rf3g7>

◆ Swine flu is the popular name for influenza caused by a relatively new strain of influenza virus A. It was responsible for the flu pandemic in 2009-10. The virus is officially known as influenza virus A/H1N1pdm09.

trigger an immune system response.

In a small survey carried out by The ME Association among its members a few years ago, seven out of 21 people had no problems at all with flu vaccine, 13 reported an exacerbation of symptoms ranging from mild (3) or moderate (7) through to a severe relapse in three cases. Interestingly, there was also one report of a teenager who noticed a slight improvement in symptoms following vaccination.

An MEA website online poll carried out in November 2008 asked how the flu jab affected ME symptoms. There were 191 responses. 86 (45%) reported no change. 52 (27%) said they were much worse. 42 (22%) said they were slightly worse. 7 (4%) said they were slightly better and 4 (2%) said they were much better after the jab.

It is impossible to predict if someone with ME/CFS is going to experience an adverse reaction to flu vaccine. Some doctors believe that this may be more likely to occur if you still have on-going flu-like/infection symptoms, such as enlarged glands, sore throats, problems with temperature control, etc.

## CONTRA-INDICATIONS AND CAUTIONS

Flu vaccine may be contra-indicated in people who have had a previous reaction, or are allergic to eggs and poultry – as it contains small amounts of egg and poultry proteins. This is something you need to discuss with your doctor because there are now egg-free vaccines available.

You should also inform your doctor if you are allergic to any of the possible vaccine components and preservatives: eg, formaldehyde, gentamicin sulphate and sodium deoxycholate. One further contra-indication is having an active febrile illness.

Some flu vaccines used to include thiomersil – a controversial mercury-containing preservative. This has now been gradually withdrawn from vaccines following concerns that it could cause neurological problems.

## SIDE-EFFECTS

Common and normally transient side-effects include a slight temperature and aching muscles for a couple of days after having the jab and the arm may feel a bit sore. If you do experience a sore arm after vaccination, use a heat pack or warm compress on the area and take a painkiller such as paracetamol or ibuprofen. Serious side-effects are very rare.

Recognised potential side-effects

listed in the literature provided to doctors include local redness, swelling, pain, bruising, fever, malaise, shivering, fatigue, headache, sweating, myalgia (muscle pain), arthralgia (joint pain), generalised skin reactions (itching, urticaria), neuralgia (nerve pain), paraesthesiae (abnormal sensations in the skin). As many of these side-effects are also ME/CFS symptoms, this may help to explain why some people with ME/CFS feel worse after a flu vaccine.

Nasal spray side-effects include a runny or blocked nose, headache, tiredness and loss of appetite.

More serious side-effects include convulsions, transient thrombocytopenia (lowered level of platelets in the blood), encephalomyelitis, vasculitis (blood vessel inflammation), neuritis (nerve inflammation) and Guillain Barre syndrome. These complications are much more unusual.

The flu vaccine cannot cause flu.

The use of a specific adjuvant known as AS03 – an emulsion that was added to stimulate the immune response in a previous vaccine – has been linked to narcolepsy.

## WHERE TO HAVE A FLU JAB

Most people have their flu jab at their GP surgery – where it is free if you have one of the conditions listed above where flu vaccination is recommended by the NHS.

Some community pharmacies also now offer flu vaccination to adults who are in the increased risk list.

Flu vaccine is also becoming increasingly available for a small charge at High Street pharmacies such as Boots.

## REDUCING THE RISK OF CATCHING FLU AND PASSING ON THE VIRUS

Children are a major source of infection – because flu is essentially a disease of childhood.

So keep a safe distance – at least two metres – from anyone who is coughing, sneezing, or may have flu, and avoid crowded public places. The virus can also be caught by contact with infected surfaces, including hands – so avoiding handshakes and hugging are other sensible precautions during the flu season.

Sneezing into your elbow – not the palm of your hand – reduces the risk of spreading the virus.

## RESEARCH INTO FLU VACCINES AND ME/CFS

The effect of influenza vaccination on ME/CFS was examined in an Australian pilot study which found that vaccination is accompanied by a degree of immune system dysregulation in ME/CFS patients compared to healthy controls and that the vaccine has the ability to increase cytotoxic activity and pro-inflammatory reactions post-vaccination (Brenu *et al* 2012).

However, Prinsen *et al* (2012) found that humoral and cellular immune responses following influenza vaccination were comparable in ME/CFS patients and healthy controls.

**References:** Brenu EW *et al*. (2012) The effects of influenza vaccination on immune function in patients with chronic fatigue syndrome/myalgic encephalomyelitis. *International Journal of Clinical Medicine*, 3, 544 – 551.

Prinsen H *et al*. (2012) Humoral and cellular immune responses after influenza vaccination in patients with chronic fatigue syndrome. *BMC Immunology*, 13, 71.

## FURTHER INFORMATION

The **NHS website** gives helpful and more detailed general guidance on flu vaccine and how to obtain flu vaccine: <https://tinyurl.com/yb8m7nnl>

**Boots flu vaccine website:** <https://tinyurl.com/y9rp8sph>

**Medical information contained in this leaflet is not intended to be a substitute for medical advice or treatment from your doctor. The ME Association recommends that you always consult your doctor or healthcare professional about any specific problem. We also recommend that any medical information provided by The MEA is, where appropriate, shown to and discussed with your doctor.**