INTRODUCTION
Seasonal flu (also known as influenza) is a highly infectious illness caused by several types of flu virus. It causes up to 30,000 deaths per year in England alone. The flu virus 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. So the spread of infection is just the same as with COVID-19.

As there is no simple answer as to whether you should have 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 then decide if you ought to have this protection.

WHAT IS THE SCIENCE BEHIND FLU VIRUSES AND FLU VACCINES?
There are three types of influenza virus. Type A viruses are the most dangerous and 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 immune system markers known as antigens that are found on the surface of the virus. These are known as haemagglutinin (H) antigens and neuraminidase (N) antigens. These markers help the virus to invade the body cells. 18 types of H antigen and 11 types of N antigen have been identified so far.

The surface antigens constantly change their identity by what is called antigenic drift (which involves minor changes from season to season) and 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 the changes are constantly monitored by the World Health Organisation in order 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. However, 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 have to be made each year and people at increased risk are encouraged to...
be vaccinated every year. There is also research evidence to indicate that flu vaccine can reduce the risk of having a stroke.

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.

THE 2020 -2021 FLU VACCINES

For 2020-2021 there are three types of flu vaccine available. You will be offered the one that is considered to be the most effective for your age group. The protection provided varies according to age and due to the decreased effectiveness in people over 65, their vaccine also contains what is called an adjuvant.

This is a substance that is added to a vaccine to increase the body’s immune response to the vaccine.

- **Children aged 2 to 17 are offered a live attenuated quadrivalent vaccine (LAIV).** This gives protection against four strains of flu. The vaccine is given as a nasal spray.

- **Adults aged 18 to 64 are offered a quadrivalent injected vaccine –** the vaccine 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 an adjuvanted trivalent injected vaccine grown in eggs (aTIV).**

WHO SHOULD HAVE A FLU JAB?

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

The list includes a number of pre-existing health conditions – neurological and immunological diseases, heart and respiratory diseases, pregnant women, and obesity.

As a result of the COVID-19 pandemic, the Department of Health has widened the list of people who should be encouraged to have flu vaccine. So this now includes health and social care workers, people in residential care homes, household contacts of people who are shielding, and people aged 50 to 64 - subject to vaccine availability.

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.

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.
WHAT ARE THE POINTS IN FAVOUR OF HAVING A FLU JAB IF YOU HAVE ME/CFS?

- Flu vaccination should provide a fairly high degree of protection against the strains that are likely to be around this winter.
- Overall, the vaccine produces a different degree of protection each year – usually around 40% - 50%
- 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).
- Serious adverse reactions are very rare 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.


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.


WHAT ARE THE POSSIBLE DISADVANTAGES?

There are anecdotal reports of people with ME/CFS suffering a relapse, or even developing ME/CFS, after this vaccine. This is possibly because 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 mimic the infection they are designed to protect against and will therefore 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. However, some doctors (myself included) believe that this may be more likely if you still have on-going flu-like/infection symptoms such as enlarged glands, sore throats, problems with temperature control, etc.

WHAT ARE THE GENERAL CAUTIONS & CONTRA-INDICATIONS?

Flu vaccine may be contra-indicated in people who have had a previous reaction, or are allergic to eggs and poultry – as the inactivated vaccine 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 thiomersal – a controversial mercury-containing preservative. This has now been gradually withdrawn from vaccines following concerns that it could cause neurological problems.
WHAT ARE THE RECOGNIZED SIDE-EFFECTS?

Common and normally transient side-effects include a slight temperature and aching muscles for a couple of days after having the jab. Your arm may also 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.

WHERE CAN YOU HAVE A FLU JAB?

Most people have a 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. If you are on the list of people who are eligible you will probably receive a letter asking you to book an appointment at one of their flu vaccine clinics. Some community pharmacies offer flu vaccination and it is now widely available for a small charge (or free if you are eligible) at many pharmacies such as Boots and Lloyds. GP surgeries and pharmacies will be following the social distancing rules and only seeing one person at a time. So most will require some form of advance pre-booking. If you are housebound, you can ask your GP surgery if someone, possibly a practice nurse, could come out and do the vaccination in your own home.

HOW CAN YOU REDUCE THE RISK OF CATCHING FLU?

Children are a major source of infection – because flu is essentially a disease of childhood. So, just as with COVID-19, 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 regular handwashing with soap – as for COVID-19 – is a sensible precaution to take.

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.


PNEUMOCOCCAL VACCINATION

This vaccine is now being offered to people over the age of 65 and those with other health conditions (e.g. heart and lung disease) that place them at increased risk from this bacterial infection. It provides very valuable protection against an infection that can cause a severe type of pneumonia.

I know of a small number of people with ME/CFS who have received the
pneumococcal vaccination and we have not received any reports of significant adverse reactions occurring to this vaccine so far. However, that is not a guarantee that you will not have any side-effects, or an exacerbation of your ME/CFS symptoms.

If there are good indications for having this protection (and a pneumococcal infection would probably cause a significant relapse of ME/CFS), this is something that you should seriously consider and discuss with your GP.

Please note that it is normally sensible to defer being vaccinated if you are currently having any significant flu-like symptoms (i.e. sore throats, tender glands, feeling feverish) in relation to your ME/CFS.

More information on pneumococcal vaccine can be found here: [https://tinyurl.com/y928j2xw](https://tinyurl.com/y928j2xw)

**FURTHER INFORMATION**

The NHS website gives helpful and more detailed general guidance on flu vaccine and how to obtain flu vaccine: [https://tinyurl.com/y2tqvma](https://tinyurl.com/y2tqvma)

Boots flu vaccine service: [https://tinyurl.com/y5v6lcoo](https://tinyurl.com/y5v6lcoo)

Lloyds flu vaccine service: [https://tinyurl.com/y3rhchqy](https://tinyurl.com/y3rhchqy)

**DISCLAIMER**

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.