ABN ADVICE FOR PEOPLE WITH MULTIPLE SCLEROSIS
ON DISEASE-MODIFYING THERAPIES

BACKGROUND

1. There is considerable uncertainty about the impact of covid19 coronavirus on the UK. As of 6th March 2020, the government has advised that the risk of widespread infection with covid19 coronavirus in the UK has risen from low to moderate. The Chief Medical Officer has estimated that the likely duration of an epidemic in the UK, if it occurs, is 6 months.

2. Covid19 coronavirus infection is more likely to occur, and more likely to have serious consequences, in people with compromised immune systems. All MS disease-modifying therapies affect the immune system, to varying degrees. So, it is important that all people with MS take simple preventive measures seriously.

3. Covid19 coronavirus infection does not lead to neurological symptoms and should not be mistaken for a relapse of MS.

GENERAL HEALTH ADVICE FOR PEOPLE WITH MULTIPLE SCLEROSIS

- People with MS (pwMS) should follow diligently the advice given to the public on travel, self-isolation and response to potential symptoms of a coronavirus infection. This advice is updated regularly and is available here: https://www.gov.uk/guidance/coronavirus-covid-19-information-for-the-public

- In summary, anyone with symptoms to suggest Coronavirus should contact 111. Prevention of coronavirus is difficult because people are often asymptomatic when infected, but hand hygiene is important. As the coronavirus is an enveloped virus it is mainly spread via droplets, is not aerosolized, and is most effectively dealt with by frequent handwashing with soap.

- There is no treatment for coronavirus infection and no drug that can be used by immunosuppressed people to prevent infection.

ADVICE FOR PEOPLE CURRENTLY ON A DISEASE MODIFYING TREATMENT

1. Do not change or stop your medication without first speaking to your MS team.

2. If you have an appointment to come to hospital for a review or treatment, and you have cough, high temperature or shortness of breath please do not come to the hospital, but contact your MS team for advice.

3. If you are on interferon beta 1a, interferon beta 1b, copaxone, teriflunomide, dimethyl fumarate and natalizumab, please continue to take these drugs. They do not significantly increase the risk of systemic viral infections.
4. If you are on **fingolimod**, please be aware that the risk of viral infections is moderately increased. So you may be more prone to coronavirus infection and its complications. For most people on fingolimod, this risk is outweighed by the effectiveness of fingolimod in controlling their MS. So, we recommend most people continue on fingolimod. It is important not to stop fingolimod without speaking to your MS team, because there is a risk that multiple sclerosis will become active and cause relapses in the weeks after stopping the drug.

5. If you are on **ocrelizumab**, please be aware that the risk of viral infections is moderately increased. So you may be more prone to coronavirus infection. For many people on ocrelizumab, this risk is outweighed by the effectiveness of ocrelizumab in controlling their MS. The MS team may consider delaying a further round of ocrelizumab until the risk of coronavirus infection is clarified or has passed, because it is clear from experience with a similar drug, rituximab, that an infusion of ocrelizumab will remain effective at controlling MS for longer than 6 months.

6. If you have had one round of **cladribine or alemtuzumab**, and are due another round, then you should discuss this further with your MS team. The risk of viral infections is highest in the three to six months after alemtuzumab and cladribine. Therefore it is sensible to delay the second round of treatment until the risk of coronavirus infection has passed. It is safe to increase the gap between the first and second alemtuzumab treatments to 18 months, without a risk of a return of MS activity. The data are less clear for cladribine. If delaying treatment is a concern, it would be reasonable to consider switching to another treatment.

7. If you have had two rounds of treatment with **cladribine or alemtuzumab** and are well, please be aware that the risk of viral infections is slightly increased. There is no need for you to have any further treatment, unless you have symptoms, or signs on an MRI scan, that your multiple sclerosis is becoming active again, in which case, please see [8].

8. If you have had two rounds of treatment with **cladribine or alemtuzumab** and your MS has become active then you might consider having a further round of treatment with cladribine or alemtuzumab. You should discuss this further with your MS team. The risk of viral infections is highest in the three to six months after alemtuzumab and cladribine. For most people, it would be preferable to consider switching to another treatment.

**ADVICE FOR PEOPLE STARTING A DISEASE MODIFYING TREATMENT**

1. The choice of disease modifying treatment for someone with MS is complex and takes into account many factors. The potential for a period of some months with an increased risk of coronavirus infection should be part of these considerations. Roughly speaking, the more effective MS therapies confer a greater risk of infection, and the potential harm from infection is greater. Nonetheless, for some pwMS the risks of the disease being untreated, or partially treated, are sufficiently high that the more effective therapies are justified.
2. The following disease modifying treatments do not significantly increase the risk of viral infections: interferon beta 1a, interferon beta 1b, copaxone, teriflunomide and dimethyl fumarate. It is important to comply with blood monitoring on these drugs, which ensures that the immune system is not excessively suppressed. Once these drugs are stopped, the immune system recovers over several weeks.

3. Natalizumab is a highly effective therapy, with very few side effects in the first six months of treatment. Its use is restricted to people with “rapidly evolving MS”. Natalizumab does increase the risk of viral infections in the brain, but Covid19 does not affect the brain. Once stopped, the immune system recovers over several weeks.

4. Fingolimod is an effective treatment of MS but causes a moderate increase in the risk of viral infections whilst you take the drug. It is a tablet and, once stopped, the immune system usually recovers in several weeks.

5. Ocrelizumab is a highly effective treatment of MS and more effective than fingolimod. After the first two infusions [a fortnight apart], it causes a moderate increase in the risk of viral infections that persists for months. If someone on ocrelizumab gets coronavirus, the drug’s effects on the immune system cannot be reversed, so the likelihood of complications from an infection is probably higher than if taking a drug which can be stopped.

6. Cladribine and alemtuzumab are highly effective treatments of MS and are given as two rounds of treatment, separated by twelve months. However, there is a very significant risk of viral infections in the three to six months after a round of alemtuzumab and cladribine. Therefore we would advise delaying the start of these treatments until the risk of coronavirus infection has passed. Most people considering these drugs will have active multiple sclerosis and so delaying treatment altogether may not be wise. In which case it would be reasonable to consider starting another treatment.

7. Haematopoietic stem cell transplantation (HSCT) is an intense chemotherapy treatment for MS, which carries a very high risk of infections for many weeks. We would recommend postponing this treatment until the risk of coronavirus has receded.

**ADVICE FOR PEOPLE ON DMTS WHO HAVE A CORONAVIRUS INFECTION**

1. If you are infected with Covid19, then we recommend stopping your disease-modifying therapy [if it is an injectable or oral treatment] or delaying your next infusion. You MS Team will advise when it is safe to restart.

**ADVICE ON INNOVATIVE TREATMENTS**

1. Siponmioid, fatumumab and rituximab are not currently available on the NHS, but are available by private prescription in the UK. These will increase the risk of
coronavirus infection, and should only be used after careful discussion with the MS team.

2. **Clinical trials of experimental drugs.** We recommend you speak to the trial team about the risk of coronavirus infection.

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