Astra Zeneca Covid-19 vaccine- Frequently asked questions

Please note, the information detailed below is correct as of 12/01/2021 and any updates will be made as new information becomes available.

If you cannot find the answer to your query below please refer to the Specialist Pharmacy Service website for further information.

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What Infection prevention and control precautions do I need to take when attending for vaccination?

A surgical hospital facemask will need to be worn at all times. Those administering the vaccination will wear the appropriate PPE as advised by Government guidance. Hands should be decontaminated with alcohol hand gel on entry and exit to the vaccination centre. All vaccines will be given with social distancing being accounted for, please ensure that you attend at the specified appointment time and do not arrive early, as social distancing needs to be maintained.

Will a face mask be provided and where do I get it from?

Surgical hospital face masks are provided and are available at:

- Entrances to the hospital
- Outpatient/Emergency and all Departments

Please ask a member of staff if you cannot find one

Why is it recommended that healthcare workers are vaccinated?

COVID-19 is a new infectious disease and complications can be severe and fatal, particularly if in a high risk group. Around 40% of people who develop symptoms report mild symptoms and typically present without hypoxia or pneumonia. A further 40% present with moderate symptoms which may include non-severe pneumonia and 15% present with severe pneumonia and significant disease. Critical disease can lead to life threatening complications and is reported in around 5% of cases. Patients with critical disease may experience acute respiratory distress syndrome (ARDS), sepsis, septic shock, cardiac disease, thromboembolic events such as pulmonary embolism and multi-organ failure.

The disease is associated with significant morbidity and mortality in certain groups. COVID-19 can cause multi-system complications in these groups/vulnerable people and has resulted in over 59 000 deaths in the UK.

Vaccination is recommended to protect healthcare workers who are at increased risk of acquiring infection in their work setting and to protect patients and other staff from exposure to infected workers, and to maintain provision of care to vulnerable individuals.

How does the vaccine work?

Vaccines help to prevent disease by stimulating your immune system to produce antibodies to a specific foreign body so that following vaccination a person develops immunity to a specific infection.

The AstraZeneca COVID19 vaccine is a viral vector vaccine which uses a weakened adenovirus as a carrier to deliver the SARS-CoV-2 antigen. The adenovirus has been modified so that it cannot grow and multiply by making copies of itself in human cells and therefore cannot cause any disease.
The genes that encode for the spike protein on the SARS-CoV-2 virus have been inserted into the adenovirus's genetic code to make the vaccine. When the vaccine is injected, it enters the host's cells which then manufacture the spike protein. This then stimulates the immune system which reacts by producing antibodies and memory T cells to the SARS-CoV-2 virus without causing disease.

Who is eligible?

As the aim is to protect those who are at highest risk from serious illness or death, the Joint Committee on Vaccination and Immunisation (JCVI) has considered epidemiological, microbiological and clinical information and has provided the Government with advice to support the development of a vaccine strategy. Full details on vaccine eligibility are included in the Green book COVID-19 chapter 14a. All healthcare staff who are eligible for seasonal influenza vaccination should be offered COVID-19 vaccine.
This includes the following groups.

Staff involved in direct patient care
This includes staff who have frequent face-to-face clinical contact with patients and who are directly involved in patient care in either secondary or primary care/community settings. This includes doctors, dentists, midwives and nurses, paramedics and ambulance drivers, pharmacists, optometrists, occupational therapists, physiotherapists and radiographers.

Non-clinical staff in secondary or primary care/community healthcare settings
This includes non-clinical ancillary staff who may have social contact with patients but are not directly involved in patient care. This group includes receptionists, ward clerks, porters and cleaners.

Laboratory and pathology staff
This includes laboratory and other staff (including mortuary staff) who frequently handle SARS-CoV-2 or collect or handle potentially infected specimens, including respiratory, gastrointestinal and blood specimens. In addition to technical staff, this may include cleaners, porters, secretaries and receptionists in laboratories. Staff working in academic or commercial research laboratories who handle clinical specimens or potentially infected samples should also be included.

Social care workers
This would include:

- those working in long-stay residential and nursing care homes or other long-stay care facilities where rapid spread is likely to follow introduction of infection and cause high morbidity and mortality
- social care staff directly involved in the care of their patients or clients
- others involved directly in delivering social care such that they and vulnerable patients/ clients are at increased risk of exposure

Is the vaccine safe?

Whilst it normally takes several years to develop a vaccine, scientists have been working together rapidly to make a safe and effective vaccine as soon as possible. Whilst clinical trials have been carried out more rapidly, this has been achieved through carrying out some of the steps alongside one another rather than one step after the other and vaccine safety has not been compromised. The vaccine trials have been subject to the usual strict trial and regulatory requirements. The vaccines have been subject to the usual strict regulatory and safety requirements by the Medicines Healthcare Regulatory Authority and advice sought from the Joint committee on vaccination and immunisation.

Can those who have allergies receive the vaccine?

The vaccine should not be given to those who have had a previous systemic allergic reaction (including immediate onset anaphylaxis) to a previous dose of the same COVID-19 vaccine or any component (excipient) of the COVID-19 vaccine. Excipients are listed in section 6.1 of the manufacturers information and are as follows:

- L-Histidine
- L-Histidine hydrochloride monohydrate
- Magnesium chloride hexahydrate
- Polysorbate 80
- Ethanol
- Sucrose
- Sodium chloride
- Disodium edetate dihydrate
- Water for injections

The vaccine contains less than 1 mmol sodium (23 mg) per dose and is considered to be essentially sodium- free.

This vaccine contains genetically modified organisms (GMOs). It does not contain preservative.

As some individuals may not be aware of the specific component that they may be allergic to, local advice is that if they have ever had a serious immediate onset allergic reaction to a vaccine or an injection, that they do not receive the vaccine until discussed with a healthcare professional. The Astra Zeneca vaccine does not contain polyethylene glycol (PEG).

The British Society for Allergy and Clinical Immunology (BSACI) has advised that:

- The Astra Zeneca vaccine can be used as an alternative (if not otherwise contraindicated) in individuals with a history of immediate onset-anaphylaxis to multiple classes of drugs or an unexplained anaphylaxis who cannot therefore receive the Pfizer BioNTech vaccine.
- individuals with a localised urticarial (itchy) skin reaction (without systemic symptoms) to the first dose of a COVID-19 vaccine should receive the second dose of vaccine with prolonged observation (30 minutes) in a setting with full resuscitation facilities (e.g. a hospital)

- individuals with non-allergic reactions (vasovagal episodes, non-urticarial skin reaction or non-specific symptoms) to the first dose of a COVID-19 vaccine can receive the second dose of vaccine in any vaccination setting

Can the vaccine be given if the patient is allergic to Latex?

The solution for injection is in a clear glass multi-dose vial with a halo-butyl rubber stopper and an aluminium overseal with a plastic flip-off cap. There is no latex in the rubber stopper.

Is the vaccine licensed?

The Astra Zeneca Covid 19 vaccine otherwise known as COVID-19 Vaccine (ChAdOx1-S [recombinant]) solution for injection, does not have a marketing authorisation, but it has been given an authorisation for temporary supply by the UK Department of Health and Social Care and the Medicines and Healthcare products Regulatory Agency for active immunisation to prevent COVID-19 disease caused by SARS-CoV-2 in individuals aged 18 years over.

How effective is the COVID-19 vaccine?

The COVID-19 vaccine is the best protection we have against an unpredictable virus. The AstraZeneca COVID-19 vaccine has been evaluated in four on-going randomised trials. Following vaccination in those patients who were antibody negative at baseline, positive antibody detection was demonstrated in >98% of participants 28 days after the first dose and >99% at 28 days after the second dose. An analysis of participants who had received one standard dose of the vaccine suggested that efficacy was 73%. High protection against hospitalisation was seen from 21 days after the first dose until two weeks after the second dose. Protective immunity from the first dose likely lasts for a duration of 12 weeks (JCVI statement).

Can the COVID-19 vaccine cause COVID-19?

No. The vaccine does not contain any whole or live virus, so it cannot cause COVID-19. Patients may get a headache, fatigue and their arm may feel a bit sore where they had the injection.

How long does the COVID-19 vaccine take to become effective?

Preliminary findings show that neutralising antibodies were induced at day 14 and 28 days after the first vaccination, levels of antibodies were increased following the second dose. Manufacturer information states that individuals may not be protected until at least 7 days after their second dose of vaccine. Following vaccination in those patients who were antibody negative at baseline, positive antibody detection was demonstrated in >98% of participants 28 days after the first dose and >99% at 28 days after the second dose. The level of immune response that provides protection against COVID-19 is unknown.

How long will the COVID-19 vaccine protect me for?

We currently do not know how long it will provide protection for. As the vaccine has only been given in clinical trials, there is currently no available data which described how long protection from the vaccine will last. Surveillance of those vaccinated will show whether

vaccine protection is long-lasting and whether the vaccine prevents a vaccinated person from carrying and spreading the virus. Booster doses beyond the recommended initial dosing schedule are not currently recommended.

If the recipient has recently received the influenza vaccine, how long do they need to wait before receiving the COVID-19 vaccine?

There must be at least 7 days between receiving an influenza vaccine and receiving the COVID-19 vaccine.

If the recipient has received other vaccines (not influenza) how long do they need to wait before receiving the COVID-19 vaccine?

There are currently no data on the co-administration of the COVID-19 vaccine and other vaccines. Due to this lack of information the COVID-19 vaccine should not be offered at the same time as other vaccines. It is advised that there should be an interval of at least 7 days between other vaccines and the COVID-19 vaccine to avoid incorrect attribution of potential side effects.

Does the COVID-19 vaccine have side effects?

Any reactions reported to date have been similar to those seen following other vaccines such as generally unwell, achy, headache, fatigue and pain/tenderness at the injection site. Tens of thousands of people have already received COVID-19 vaccines in clinical trials; these have shown that no serious adverse reactions to the vaccines were seen in the trial participants.

Mild fever can occur which usually resolves within 48 hours. This is a common expected reaction and isolation is not required unless COVID-19 is suspected. Most reactions reported were found to resolve in 1-2 days without treatment, but paracetamol can be given if necessary to relieve symptoms. Paracetamol was not found to affect the immune response of this vaccine.

When compared with the first dose, adverse reactions after the second dose were milder and reported less frequently.

In the phase 3 study, only 1 serious adverse event was reported as possibly linked to the study vaccine. This was a case of transverse myelitis which occurred 14 days after dose 2. (The Green Book)

The most commonly reported COVID-19 symptoms are: a high temperature (this means you feel hot to touch on your chest or back (you do not need to measure your temperature), a new, continuous cough (this means coughing a lot for more than an hour, or 3 or more coughing episodes in 24 hours (if you usually have a cough it may be worse than usual), or a loss or change to sense of smell or taste. If someone experiences any of these symptoms they should get tested. The COVID-19 vaccine will not interfere with testing for COVID-19 infection. As has always been recommended, any fever after vaccination should be monitored and if any individual is concerned about their health at any time should seek medical advice from their GP or NHS 111.

All suspected adverse reactions following administration of COVID-19 vaccine should be reported to the MHRA via the established yellow card reporting scheme (coronavirus-yellowcard.mhra.gov.uk or call 0800 731 6789.

Which age groups can receive the vaccine?

The manufacturer of the vaccine states that it may be given to individuals 18 years of age and older (Regulation 174).

SARS-CoV-2 vaccine trials have only just begun in children and there are, therefore, very limited data on safety and immunogenicity in this group. Children and young people have a very low risk of COVID-19, severe disease or death due to SARS-CoV-2 compared to adults and so COVID-19 vaccines are not routinely recommended for children and young people under 16 years of age. (The Green Book)

Given the increased risk of exposure to infection and outbreaks in institutional settings, vaccination may be considered for children with serious neuro-disabilities (including cerebral palsy, severe autism and Down's syndrome) who spend regular time in specialised residential care settings for children with complex needs. As older children have higher risk of acquiring and becoming sick from infection and there are some safety data on the Pfizer BioNTech COVID-19 mRNA Vaccine BNT162b2 in children aged 12 years and older, vaccination of older children in these settings should be considered. As this would be outside the terms of the MHRA approval. (The Green Book)

Young people age 16-18 years, who are employed in, studying or in training for health and social care work should be offered vaccination alongside their colleagues if a suitable vaccine is available. Only the Pfizer vaccine was considered for this age group (over 16 years old. The Astra Zeneca vaccine has no data available for patients under 18 years old. Younger people who are taking part in health and social care work as volunteers, interns or for the purposes of work experience, should make all efforts to avoid exposure to infection; vaccination would not normally be required. (The Green Book)

Can the vaccine be given in pregnancy?

There are no known risks associated with giving inactivated vaccines during pregnancy, as inactivated vaccines cannot replicate so they cannot cause infection in either the mother or unborn child. As with most pharmaceutical products, specific clinical trials of COVID-19 vaccine in pregnant women have not been carried out. Developmental and reproductivity testing of the vaccine in animals has not raised any concerns. Whilst the data do not indicate any safety concern or harm in pregnancy, there is insufficient evidence to recommend routine use of the COVID-19 vaccine during pregnancy. Manufacturers information is available in section 4.6.

The Joint Committee for Vaccination and Immunisation (JCVI) advises that vaccination should be considered in those where the risk of exposure to COVID-19 is high and cannot be avoided, or where the woman has underlying conditions that put them at very high risk of serious complications of COVID-19. The risks versus benefits should be discussed. The Royal College of Obstetricians and Gynaecologists (RCOG), advises that if the pregnant

woman is in a clinically extremely vulnerable group, then the option of vaccination should be discussed. The most likely relevant groups of pregnant women this would apply to are:

- Solid organ transplant recipients
- Those with severe respiratory conditions including cystic fibrosis and severe asthma
- Those with sickle cell disease
- Those receiving immunosuppression therapies sufficient to significantly increase risk of infection
- Those receiving dialysis or with chronic kidney disease (stage 5)
- Those with significant congenital or acquired heart disease

In addition those pregnant women who are frontline health or social care workers, including carers in residential homes, can also discuss the option of vaccination. This is because the risk of exposure to COVID-19 may be higher, even if they have a lower risk of experiencing complications if they are otherwise well. The risks versus benefits should be discussed on an individualised basis.

For those who choose to receive the COVID-19 vaccine, they should bring their maternity handheld notes so that an entry can be made in the notes to state the vaccine has been received. For those without a set of handheld notes, the patient vaccination card will be given as usual and the recipient should be advised to inform their midwife they have received the COVID-19 vaccine.

Termination of pregnancy following inadvertent administration is not recommended.
All COVID-19 vaccines given from the first day of last menstrual period to any time in pregnancy should be reported to the UK Vaccine in Pregnancy surveillance programme run by the Immunisation Department of Public Health England.

Can the vaccine be given to women of childbearing age?

Yes, though women of childbearing age should be asked if they could be pregnant prior to receiving the vaccine. Those who are trying to become pregnant do not need to avoid pregnancy after vaccination. Termination of pregnancy following inadvertent immunisation is not recommended, though if a woman finds out she is pregnant after she has started a course of vaccine she should complete her pregnancy before finishing the recommended schedule.

Can the vaccine be given to those who are breastfeeding?

There is no known risk associated with giving non-live vaccines whilst breastfeeding. It is unknown whether the vaccine is excreted in human milk and there is no current safety data on the use of the vaccine in breastfeeding mothers. The Joint committee for vaccination and immunisation (JCVI) has advised that there is no known risk in giving the vaccine to breastfeeding women. The Royal College of Obstetricians and Gynaecologists therefore state that the vaccine can now be offered to breastfeeding mothers if they are otherwise eligible (e.g. frontline healthcare worker, care home worker etc).

Can the vaccine be given to those who are Immunosuppressed?

As immunosuppressed patients are at risk of increased morbidity and mortality if they develop COVID-19, they should be offered the vaccine. The COVID-19 vaccine can be safely given to immunosuppressed individuals who are either immunosuppressed due to disease or treatment, including HIV positive individuals (regardless of CD4 count) though they may have a suboptimal immunological response to the vaccine. There is no data about concomitant use of immunosuppressants. A full definition of immunosuppression is detailed in the green book chapter 14a. As these individuals may not make a full antibody response, they should continue to follow advice to avoid exposure unless they are advised otherwise by a doctor.

Can the vaccine be given to those currently receiving treatment for a rheumatological disorder?

Yes. People who are defined as Clinically Extremely Vulnerable (CEV) are considered to be at high risk of severe illness from COVID-19. All CEV patients are in a clinical risk group which should receive the vaccine.

This includes:

- Individuals receiving immunosuppressive or immunomodulating biological therapy including, but not limited to, anti-TNF, alemtuzumab, ofatumumab, rituximab, patients receiving protein kinase inhibitors or PARP inhibitors, and individuals treated with steroid-sparing agents such as cyclophosphamide and mycophenolate mofetil.
- Individuals treated with (or likely to be treated with) systemic steroids for more than a month at a dose equivalent to prednisolone at 20mg or more per day (any age).

The British Society of Rheumatology advise that:

- Where clinically possible, the COVID-19 vaccine course should be given four weeks or more before rituximab
- There may be a sub-optimal response to COVID-19 vaccines, especially for people within six months of the last dose of rituximab, or those who must have maintenance treatment due to their underlying clinical condition
- Where clinically appropriate, consideration should be given to using alternative therapies to rituximab, because of the potential that after rituximab there may be sub-optimal response to a COVID-19 vaccine. This should be on a case-by-case basis, balancing the need for rituximab and the suitability of alternative therapies for the relevant clinical situation.

Can the vaccine be given to individuals taking steroid medication?

Individuals taking steroids can be safely vaccinated. As systemic steroids at a dose equivalent to prednisolone 20mg or more per day are considered to be immunosuppressive, patients taking steroids are at risk of serious illness if they develop COVID-19 and so should be vaccinated.

Can the vaccine be given to those receiving Chemotherapy?

Those that are receiving chemotherapy are included as a clinical at risk group who should receive COVID-19 immunisation. For individuals due to commence immunosuppressive treatments, inactivated vaccines should ideally be administered at least 2 weeks before commencement. In some cases this will not be possible and therefore vaccination may be carried out at any time.

Can the vaccine be given to those due to have surgery?

The Royal Surgical Colleges of England and Scotland have released guidance on the management of vaccinated patients:

- essential urgent surgery should take place, irrespective of vaccination status.
- non-urgent elective surgery can also take place soon after vaccination. There is some rationale for separating the date of surgery from vaccination by a few days (at most 1 week) so that any symptoms such as fever might be correctly attributed to the consequences of either vaccination or the operation itself.
- at present, there is no policy established for prioritising patients scheduled for elective procedures to be vaccinated before the planned operation date. However, if the vaccine is available for this cohort of patients, then this would not be a reason for it to be withheld.

There is no information in the green book chapter 14a regarding the use of the COVID-19 vaccine in those patients with recent or imminent elective surgery. Minor illnesses without fever or systemic upset are not valid reasons to postpone immunisation. If an individual is acutely unwell (for example, following elective surgery), immunisation may be postponed until they have fully recovered. This is to avoid confusing the differential diagnosis of any acute illness (including COVID-19) by wrongly attributing any signs or symptoms to the adverse effects of the vaccine. (SPS)

What if the recipient is acutely unwell when presenting for vaccination?

Vaccination may be postponed in those who are acutely unwell until they have fully recovered. This is to avoid confusing the differential diagnosis of any acute illness by wrongly attributing any signs or symptoms to the adverse effects of the vaccine. Minor illness without fever or systemic upset, are not valid reasons to postpone immunisation.

If the recipient has recently tested positive for COVID19 or has a previous history of testing positive, or has tested positive for COVID antibodies, should they receive the vaccine?

Those individuals or are currently unwell and experiencing COVID-19 symptoms should not receive the COVID-19 vaccine until they have recovered. This is to prevent wrongly attributing any new symptom or progression of symptoms to the vaccine. As deterioration can occur up to 2 weeks after infection, vaccination should ideally be deferred until they have recovered and at least 4 weeks after onset of symptoms or 4 weeks from the first PCR positive specimen in those who are asymptomatic.

There is no evidence from clinical trials of any safety concerns from vaccinating those with a past history of COVID-19 infection or with detectable COVID-19 antibodies, therefore those who have had COVID-19 diseases (whether confirmed/suspected) can still receive the vaccine. This is because it is not known how long antibodies made in response to natural infection persist and whether immunisation could offer more protection. If antibodies have already been made following natural infection, receiving the vaccine would be expected to boost any pre-existing antibodies.

Will receiving the vaccine interfere with lateral flow testing results?

There is no evidence to suggest the vaccine will affect test results.

The recipient has been treated for COVID-19 diseases (with for example dexamethasone, convalescent plasma, monoclonal antibodies or antiviral medicines) how long do they need to wait before they can receive the vaccine?

As the COVID-19 vaccine is not live, these treatments would not contraindicate administration of the vaccine. Although the high levels of antibodies in convalescent plasma could interfere with the immune response to the vaccine, antibodies acquired from plasma are not thought to persist for long, so by the time the person is well enough to receive the COVID-19 vaccine, these antibodies are likely to have gone.

Those individuals or are currently unwell and experiencing COVID-19 symptoms should not receive the COVID-19 vaccine until they have recovered. This is to prevent wrongly attributing any new symptom or progression of symptoms to the vaccine. As deterioration can occur up to 2 weeks after infection, vaccination should ideally be deferred until they have recovered and at least 4 weeks after onset of symptoms or 4 weeks from the first PCR positive specimen in those who are asymptomatic.

What should the vaccinator team do if the recipient states that they are taking anticoagulants or have a bleeding disorder?

Individuals on stable anticoagulation therapy, including individuals on warfarin who are up to date with the INR testing and whose latest INR is below the upper threshold of their therapeutic range, can receive IM vaccination. Firm pressure should be applied to the site (without rubbing) for at least 2 minutes.

Individuals with a bleeding disorder may be vaccinated IM, if in the opinion of a doctor familiar with the individuals bleeding risk considers this to be reasonable. If the individual receives medication to reduce bleeding (e.g. haemophilia), the IM vaccination can be scheduled shortly after such medication/treatment is administered. A fine needle (23 or 25 gauge) should be used, followed by firm pressure (without rubbing) for at least 2 minutes. The individual/carer should be informed about the risk of haematoma from the injection site

What is the recommended interval between the TWO doses of the vaccine?

The Astra Zeneca vaccination course consists of two separate doses, the second dose should be administered between 4 and 12 weeks after the first dose (manufacturers information). As advised in the green book, for operational purposes, it is recommended that the second dose should be routinely scheduled between four and 12 weeks after the first dose. This will allow more people to benefit from the protection provided from the first dose during the roll out phase. Longer term protection will then be provided by the second dose.

The second dose will be given towards the end of the 12 week period.

See also "Why has the interval between vaccine doses changed from 28 days to 12 weeks?".

What if the second dose is given at less than the recommended interval?

If the second dose of the AstraZeneca COVID-19 vaccine is given at less than the recommended 28 day interval, but at least 21 days after the first dose, it does not need to be repeated. If the second dose is given less than 21 days after the first, it should be discounted and another dose (a third dose) should be given at least 28 days after the dose given too early. If this situation arises, the 'third dose' cannot be supplied under the Patient Group Direction (PGD) for this vaccine. Instead a Patient Specific Direction (PSD) would be required to enable the administration of a third dose.

What if the second dose is given at more than the recommended interval?

The Green Book recommends that if an interval longer than the recommended interval is left between doses, the second dose should still be given (preferably using the same vaccine as was given for the first dose if possible). The course does not need to be restarted.

Why has the interval between vaccine doses changed from 28 days to 12 weeks?

While there is some evidence to indicate high levels of short-term protection from a single dose of vaccine, a two-dose vaccine schedule is currently advised as this is likely to offer longer lasting protection.

Due to the current rapid increase in COVID-19 cases in the UK in December 2020, the JCVI is placing a high priority on promoting rapid, high levels of vaccine uptake amongst vulnerable persons. Therefore, given data indicating high efficacy from the first dose of AstraZeneca, the Committee advises that delivery of the first dose to as many eligible individuals as possible should initially be prioritised over delivery of a second vaccine dose. Short term vaccine efficacy from the first dose of the AstraZeneca vaccine is around 73% (49-86%). Protective immunity from the first dose likely lasts for a duration of 12 weeks (unpublished data- JCVI statement). Given the high level of protection afforded by the first dose, models suggest that initially vaccinating a greater number of people with a single dose will prevent more deaths and hospitalisations than vaccinating a smaller number of people with two doses

The second dose of the Astra Zeneca vaccine may be given between 4 to 12 weeks following the first dose. The second vaccine dose should be with the same vaccine as for the first dose. Switching between vaccines or missing the second dose is not advised as this may affect the duration of protection, but see "As there are 2 doses of the vaccine required as part of the immunisation schedule, do they both need to be the same vaccine brand?".

Do recipients have a choice over which vaccine they receive?

The choice will depend on which is available at the vaccination site. Recipients will be informed and consented as appropriate.

There have been no clinical trials directly comparing the Pfizer-BioNTech and AstraZeneca vaccines. In Phase III trials of the respective vaccines, efficacy against symptomatic disease for the Pfizer-BioNTech vaccine was higher than for the AstraZeneca vaccine. Differences in study setting, study design, study population (age, ethnicity, social demographics, etc), and efficacy endpoints may account for some of the observed differences. Both vaccines give very high protection against severe disease, which is the primary aim of the first phase of the programme, and both vaccines have good safety profiles.

The logistical challenges posed by the storage and distribution requirements for the Pfizer-BioNTech vaccine mean that in some populations, the AstraZeneca vaccine is the only vaccine which can be deployed rapidly, and without substantial vaccine wastage.

The JCVI does not advise a preference for either vaccine in any specific population. For operational and programmatic reasons, such as to enable more extensive and timely vaccine coverage, one vaccine may be offered in certain settings in preference over another vaccine.

As there are 2 doses of the vaccine required as part of the immunisation schedule, do they both need to be the same vaccine brand?

It is recommended that individuals who receive a first dose of Astra Zeneca COVID-19 vaccine complete the vaccination course with Astra Zeneca COVID-19 vaccine. There is no information on the interchangeability of the different COVID-19 vaccines, though there are studies underway. Every effort should be made to determine which vaccine an individual received and to complete with the same vaccine. Once you receive your vaccination you will receive a vaccination card which will detail this information.

If you arrive for vaccination and it is not known which brand of vaccine you received or if that brand of vaccine is not available, it is reasonable to offer a single dose of the locally available vaccine. As both vaccines are based on the spike protein of the virus, it is likely the second dose will help boost the response to the first dose.

Can those who have received the COVID-19 vaccine as part of a clinical trial have the vaccine?

All trial participants (in whichever vaccine trial) must contact their trial teams for advice prior to booking any appointments. If you have contacted your trial investigator and have been un-blinded and subsequently advised to receive the vaccine, then you will be able to receive the vaccine. Please bring evidence that it has been advised for you to receive the vaccine (e.g. confirmatory email)

After receiving the vaccine, will the recipient need to wait at the vaccine centre?

As fainting can occur following vaccination, all those vaccinated with AstraZeneca COVID-19 vaccine should either be driven by someone else or should not drive or return to work for 15 minutes after vaccination. In the initial weeks of vaccination we may be asking for recipients to wait for 15 minutes (but this is not mandated).

The recipient is fit and well / exercises regularly / has good immunity / eats a healthy diet. Do they still need the COVID-19 vaccine?

Yes. COVID-19 is infectious and anyone can catch it. Having a strong immune system does not guarantee that your COVID-19 symptoms will not be severe if you do catch it.

By having the COVID-19 vaccine, you are protecting those who are most vulnerable to serious COVID-19 disease. Current available data suggest that increasing age and male gender are significant risk factors for severe infection. However, there are also groups of patients with underlying comorbidities, where infection may result in increased risk of serious disease, including diabetes, cancer and severe asthma.

What is the excipient content of the vaccine?

The excipients listed in the manufacturer's information are as follows:

- L-Histidine
- L-Histidine hydrochloride monohydrate
- Magnesium chloride hexahydrate
- Polysorbate 80
- Ethanol
- Sucrose
- Sodium chloride
- Disodium edetate dihydrate
- Water for injections

The vaccine contains contains less than 1 mmol sodium (23 mg) per dose, i.e. essentially 'sodium-free'.
This vaccine contains genetically modified organisms (GMOs). It does not contain preservative.

The vaccine does not contain eggs, gelatin, gluten, lactose, mercury, peanut or tree nut derivatives, preservatives, thiomersal or soy.

Does the COVID-19 vaccine contain any animal derivatives?

No, the manufacturer has confirmed that the Astra Zeneca COVID-19 vaccine does not contain any animal-derived products and excipients are of vegetable origin. AstraZeneca does not manufacture the raw materials used in its products, and the suppliers may periodically change. Lack of contact with other ingredients during the manufacturing process cannot be guaranteed. The Astra Zeneca vaccine is produced in a human cell line. These cells are then lysed to release the vaccine and the cell debris is filtered during vaccine production (ref. SPS).

For information about allergies, see "Can those who have allergies receive the vaccine?".

Does the COVID-19 vaccine contain gelatin?

No, the manufacturer has confirmed the vaccine does not contain gelatin. Other raw materials used in the manufacture of the vaccine are of non-animal origin. AstraZeneca does not manufacture the raw materials used in its products, and the suppliers may periodically change. Lack of contact with other ingredients during the manufacturing process cannot be guaranteed.

Does the COVID-19 vaccine contain egg?

No, eggs are not used during the manufacturing of the vaccine and the final product does not contain egg. AstraZeneca does not manufacture the raw materials used in its products, and the suppliers may periodically change. Lack of contact with other ingredients during the manufacturing process cannot be guaranteed.

Does the COVID-19 vaccine contain nuts?

The manufacturer states that the AstraZeneca vaccine does not contain any peanut or tree nut derivatives (ref: correspondence with manufacturer).

Does the COVID-19 vaccine contain gluten?

No, the manufacturer has confirmed that the Astra Zeneca vaccine is gluten free. AstraZeneca does not manufacture the raw materials used in its products, and the suppliers may periodically change. Lack of contact with other ingredients during the manufacturing process cannot be guaranteed

Is the COVID-19 vaccine suitable for vegans?

Yes, all materials used in the manufacture of this vaccine are of non-animal origin.

Eggs are not used during the manufacturing of the vaccine and the final product does not contain egg. AstraZeneca does not manufacture the raw materials used in its products, and the suppliers may periodically change. Lack of contact with other ingredients during the manufacturing process cannot be guaranteed

Do natural remedies help prevent COVID-19?

Vaccination is the best protection against getting COVID-19. There is currently no strong scientific evidence that any natural product is useful against COVID-19.

Following administration of the vaccine, if the recipient develops Covid symptoms should they get tested?

The most commonly reported COVID-19 symptoms are: a high temperature, a new, continuous cough, or a loss or change to sense of smell or taste. If someone experiences any of these symptoms they should get tested. The COVID-19 vaccine will not interfere with testing for COVID-19 infection.

Are there any special requirements for health and safety when handling the vaccine?

A material safety data sheet is not currently available for the AstraZeneca COVID-19 vaccine. Spillages on skin should be washed with soap and water. If vaccine is splashed in the eyes, they should be washed with sterile 0.9% sodium chloride solution and medical advice should be sought. Spillages must be cleared up quickly in accordance with local standard operating procedures.

If I have received both doses of the vaccine, am I exempt from self-isolation if I am identified as a COVID contact?

No, you would not be exempt. The vaccine is not 100% effective, we do not know whether it will stop you from catching or passing on the virus. Therefore you would need to isolate if you were identified as a COVID-19 contact. Failure to self-isolate may result in a fine.

I am currently shielding, how long after receiving the vaccine can I stop shielding?

The vaccine is not 100% effective, we do not know whether it will stop you from catching or passing on the virus. Therefore you would need to isolate if you were identified as a COVID-19 contact. If you have been advised to shield as you are clinically extremely vulnerable, then you continue to do this until told otherwise. You should continue to practice social distancing, wear a face mask, and follow the current guidance which can be found at www.gov.uk/coronavirus

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