



COVID-19 vaccination

Summary of recent changes (last updated 24 May 2021):

- Storage conditions for Comirnaty[™] updated (page 3).
- Contraindications and precautions clarified and reordered in line with EVDS (page 5).
- Additional information added to Comirnaty™ draw up: tips to draw 6 doses from a vial.

Version 2

Guidance for the Janssen® (JNJ) Ad26.COV2.S and Comirnaty® (Pfizer-BioNTech) BNT162b2 COVID-19 vaccines.

Practical Approach to Care Kit: Vaccine

Guidance for vaccinators on how to store, prepare, draw up and administer COVID-19 vaccines

Updated May 2021 · Western Cape Edition

Contents

Summary table of Janssen® and Comirnaty® vaccines	3
The vaccine client pathway	4
Pre-vaccination health check	5
Allergy risk assessment	6
How to draw up the Comirnaty® vaccine	7
How to administer the Comirnaty® vaccine	9
How to draw up Janssen® vaccine	11
How to administer the Janssen® vaccine	13
Manage injection difficulties	15
Disposal of empty used vaccine vials	15
Observation post vaccination	16
Collapse following vaccination	17
Treat suspected anaphylaxis	18
Symptoms post vaccination	20
How to complete an AESI form page 1	21
How to complete an AEFI form page 1	23
Acknowledgements	25
References	25

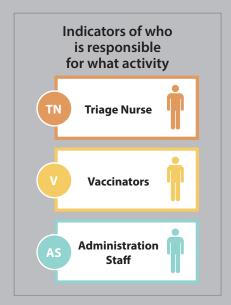
Orange-highlighted medications may be prescribed by a doctor or an authorised prescriber (clinical nurse practitioner or professional nurse) in accordance with his/her scope of practice within a specified field.

Blue-highlighted medications may be prescribed by a doctor or clinical nurse practitioner who is an authorised prescriber.

Green-highlighted medications may be prescribed by a doctor only

Arrows refer you to another page in the guide:

- The return arrow (೨) guides you to a new page but suggests that you return and continue on the original page.
- The direct arrow (\rightarrow) guides you to continue on another page.



Disclaimer: The content of this document has been developed specifically for health care professionals practising in the Western Cape, South Africa, and which content, at the date of first publication, is reasonably believed to represent best practice in the relevant fields of healthcare. This information is provided on an "as is" basis without any warranties regarding accuracy, relevance, usefulness or fitness for purpose. To the fullest extent permitted by law. University of Cape Town Lung Institute Proprietary Limited and all its affiliates (including The Lung Institute Trust) and the Western Cape Department of Health cannot be held liable or responsible for any aspect of healthcare administered with the aid of this information or any other use of this information, including any use which is not in accordance with any guidelines or (mis-)use outside the Western Cape, South Africa. Health Care Professionals are strongly advised to consult a variety of sources and use their own professional judgment when treating patients using this information. It is the responsibility of users to ensure that the information contained in this document is appropriate to the care required for each of their patients within their respective geographical regions. The information contained in this document should not be considered a substitute for such professional judgment.







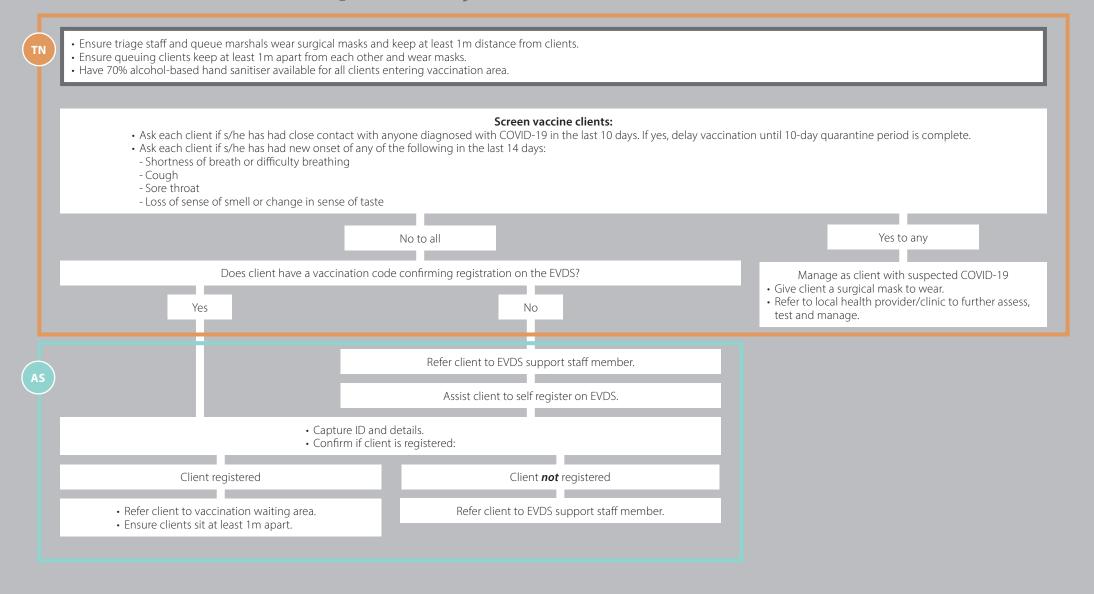


The response to COVID-19 is rapidly changing as new evidence becomes available and health systems adapt. The KTU welcomes feedback on this guidance as it continues to be updated for future versions. Please send feedback to www.knowledgetranslation.co.za/contact/feedback

Summary table of Janssen® and Comirnaty® vaccines

				Record 'new' expiry date Note: If amount of			
	Janssen® (J&J) vaccine (Ad26.COV2.S)	Comirnaty® (PFIZER-BioNTech) vaccine (B	NT162b2)	and time every time vaccine left in vial cannot provide a full dose,			
Vial	 Blue topped multi-dose vial Each vial contains 2.5mL: 5 doses of 0.5mL. Liquid suspension for injection Colourless to slightly yellow, clear/shiny suspension 	 Purple topped multi-dose vial Requires dilution (preservative-free sodium ch Before dilution: 0.45mL frozen liquid drug prod After dilution: each vial contains 2.25mL: at lea 	freezer to refrigerator to room temperature and after dilution/first puncture. discard vial and contents into pharmaceutical waste. Do not combine vaccine from multiple				
Each dose	0.5mL via intramuscular injection (deltoid)	0.3mL via intramuscular injection (deltoid)		• Never re-freeze vaccine. vials to obtain a dose.			
Number of doses	One dose per client	Two doses per client – at least 21 days apart. No	ote: this interval may change t	to 42 days - circular from National pending.			
Approved for:	Clients ≥ 18 years old	Clients ≥ 16 years old					
Freezer storage	Freezer (-25°C to -15°C): up to 2 years	Ultra-low freezer (-75°C to -65°C): for up to 6 months Freezer (-25°C to -15°C): for up to 14 days	NOTE: Once removed from the ultra-low freezer, vials reezer (-25°C to -15°C): for up to 14 days NOTE: Once removed from the ultra-low freezer, vials reezer (-25°C to -15°C): for up to 14 days				
Refrigerator storage (2°C to 8°C)	For up to 3 months.	For up to 31 days					
Thawing	 Preferably, thaw overnight in refrigerator (2-8°C) for 12 hours. Keep in original carton. Protect from sunlight. 	 If thawing in original tray of 195 packaged vials, thaw at 2-8°C for 3 hours (preferred) or If thawing an individual frozen vial, thaw for 30 minutes at room temperature (up to 30°C) for immediate use. Protect from sunlight. 					
Acclimatisation	15-30 minutes after removing from refrigerator.	15-30 minutes after removing from refrigerator.					
Preparation	No dilution needed.	Dilution needed. Use 1.8mL preservative-free sodium chloride 9mg/mL (0,9 %) solution for injection as diluent. Store diluent in vaccine fridge with thawed vaccines.					
Expiry times once prepared	After first puncture of vial, vaccine can be held: • In refrigerator (2-8°C) for up to 6 hours. • At room temperature (up to 25°C) for up to 3 hours.	After dilution: • Keep at room temperature (up to 25°C) for up • Do not return to refrigerator.	to 6 hours.				
Drawing up equipment	For each dose: • 1mL or 2mL syringe • 1x needle - use light blue needle 23G x 1" (25mm). If client is overweight, then use a longer needle: - Black 22G x 1½" (32mm) or blue 23G x 1½" (38mm) • Alcohol swab (Webcol™) • Cotton wool • Water for cleaning • Adhesive surgical tape (Micropore™) • Alcohol hand sanitiser • Vaccination card	For dilution: • 2mL syringe and green 21G x1½" (40mm) nee • Preservative-free sodium chloride 0.9% For each dose: • 0.3mL, 0.5mL or 1mL syringe • 1x needle - use light blue needle 23G x 1″ (25n - Black 22G x 1½" (32mm) or blue 23G x 1½" (3 • Alcohol swab (Webcol™) • Cotton wool • Water for cleaning • Adhesive surgical tape (Micropore™) • Alcohol hand sanitiser • Vaccination card	nm). If client is overweight, th	nen use a longer needle:			
Security	Keep vaccines in an access-controlled room. Lock refrigerator ar	nd rooms where the vaccines are stored. Monitor a	and take stock dailv.	Updated -			
,				extended storage			

The vaccine client pathway



Pre-vaccination health check

The only absolute contraindication to vaccination is a history of immediate allergic reaction after a previous dose of COVID-19 vaccine or known allergy to an ingredient of vaccine. This page guides you through precautions.

Many clients are anxious at this stage: be kind and reassuring.

24 May 2021



v

- Wear appropriate PPE: surgical mask. Clean hands between each client. Gloves not compulsory for vaccinating. If client has disclosed a positive HIV status, wear gloves to vaccinate.
- Client will be screened for COVID-19 symptoms upon entering the facility.

STEP 1. Work through steps on the Electronic Vaccine Data System (EVDS)

Confirm identity. Then complete and record informed consent process and questions with the client on EVDS. Steps 2-6 provide additional guidance/advice according to client's responses:

STEP 2. Ask about previous COVID-19 infection and other recent vaccines

- Ask client if s/he received a vaccine in the past 2 weeks. If yes, delay vaccination: advise client to return at least 2 weeks after last vaccination (Comirnaty® vaccine doses need to be at least 21 days apart).
- Ask client if s/he tested positive for COVID-19 infection in the past 3 months (90 days). If yes, delay vaccination: advise client to return at least 3 months after testing positive or onset of symptoms.

STEP 3. Ask if client has a history of allergy to any food, substance, medicines or vaccines. If none, move to next step.

If history of allergy (trouble breathing, hives, facial or tongue swelling or low pressure): assess risk of allergy further on 56.

STEP 4. Ask about any blood clotting disorders or anticoagulant medications. If none, move to next step.

• If client asks about blood clotting risks: reassure client that the risk of VITT¹ is extremely low. This is because the mechanism for VITT is immune-mediated and is not the same as the mechanism of common causes of blood clots, like deep vein thromboses (DVT) and/or pulmonary embolisms (PE).

Client on anticoagulant medications (e.g. aspirin, warfarin)

Current/previous blood clotting disorder

Does client have a history of thrombosis and thrombocytopaenia - blood clots with low platelets (cells that help your body stop bleeding)¹?

No

Proceed with vaccination (this is not a contraindication):

If on anticoagulants: advise not to stop medications before getting the COVID-19 vaccine. If on warfarin: ensure latest routine INR result is not *above* therapeutic range (usually 2.0-3.0, except for mechanical heart valve, where a higher range is acceptable). Discuss if unsure, or result unavailable.

This client could be at risk of VITT¹. Discuss with doctor and preferably arrange for Comirnaty® vaccine for client if possible.

Yes

STEP 5. Ask if client has a chronic medical condition requiring ongoing specialist care. If none, move to next step.

- Reassure client that having a chronic medical condition is not a contraindication to vaccination.
- If immunocompromise or autoimmune disease reassure that s/he can still be vaccinated. Emphasise ongoing prevention measures as data on adequate immune response is limited.
- If on immunosuppressive therapy, check if client has confirmed timing of vaccination with his/her specialist. If not, advise to confirm this before continuing vaccination.

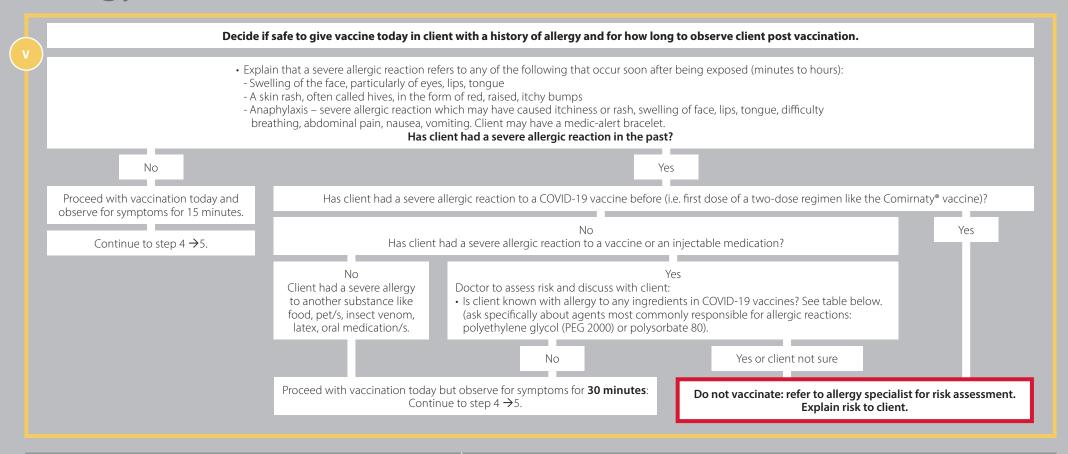
STEP 6. If woman of child bearing age, ask about pregnancy or breastfeeding. If none, move to next step.

- If breastfeeding: advise that vaccination is a personal choice. Explain that as non-live vaccines pose no risk for breastfeeding mother or their infants, COVID-19 vaccines are also not thought to be a risk. If client understands and consents, continue with vaccination process.
- **If pregnant:** advise client that data is still limited and vaccination is a personal choice. Explain that initial studies have found no increased risk of pregnancy complications after the vaccine. Experts advise that pregnant people should be vaccinated due to the high risk of complications from COVID-19. If client understands and consents, continue with vaccination process.

Proceed to vaccination: if giving Comirnaty vaccine \rightarrow 7. If giving Janssen vaccine \rightarrow 11.

'This includes Vaccine-induced Immune Thrombotic Thrombocytopaenia (VITT) and Heparin-Induced Thrombocytopaenia and Thrombosis (HITT). This is where an immune response, triggered by this type of vaccine in VITT, or heparin in HITT, causes blood clots (in brain, abdomen or legs), along with low platelet levels (blood cells that help your body stop bleeding). Only very few people who have received COVID vaccines have had VITT, mainly females under the age of 50 years. Symptoms started 1-2 weeks after vaccination and included severe persistent headaches, neurological symptoms, abdominal pain, shortness of breath, chest pain and leg pain/swelling. The chance of VITT is extremely low. Educate the client about it, especially if female < 50 years but emphasise that because of the rarity of these events and the potential severity of COVID-19, the overall benefits of the vaccines far outweigh this risk.

Allergy risk assessment



Janssen® (J&J) vaccine (Ad26.COV2.S) Comirnaty® (Pfizer-BioNTech) vaccine (BNT162b2) • Polysorbate 80 • 2[(polyethylene glycol (PEG))-2000]-N,N-ditetradecylacetamide Sodium chloride • 1,2-distearoyl-sn-glycero-3-phosphocholine • Citric acid monohydrate buffer Cholesterol 2 hydroxypropyl-β-cyclodextrin (HBCD) • (4-hydroxybutyl)azanediyl)bis(hexane-6,1-diyl)bis(2-hexyldecanoate) • Ethanol (absolute) • Potassium chloride Sodium hydroxide • Monobasic potassium phosphate · Water for injection · Sodium chloride • Recombinant, replication-incompetent Ad26 vector, encoding a stabilized variant of the • Dibasic sodium phosphate dehydrate SARS-CoV-2 Spike (S) protein • Nucleoside-modified mRNA encoding the viral spike (S) glycoprotein of SARS-CoV-2 Note: Neither vaccine contains eggs, gelatin, latex, or preservatives.

How to draw up the Comirnaty® vaccine

Updated- dilution tips added.

1

Clean hands

- · Follow an aseptic technique.
- · Clean hands well before vaccine preparation, between patients or at any time if hands become soiled.





Bring vaccine and diluent to room temperature

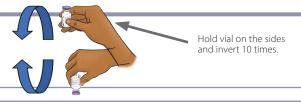
- If vaccine is in refrigerator:
- Remove and allow to come to room temperature for 15-30 minutes.
- Vials can be held at room temperature for up to 2 hours before mixing.
- If vaccine in cooler box:
- No need to wait, remove and start preparing.



3

Gently invert to mix

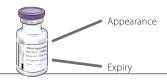
- Before inspection and dilution, gently invert (tip upside down) vaccine vial 10 times.
- Do not shake! If vial is shaken, discard it.



4

Check and inspect

- · Check:
- Correct vaccine and diluent.
- Expiry date on vaccine and diluent.
- · Inspect:
- Vaccine liquid prior to dilution: should be a white/off-white suspension and may contain white/off-white tiny solid particles. Do not use if liquid is discoloured.
- Vial: check for cracks or any abnormalities (evidence of tampering).



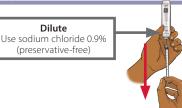
5

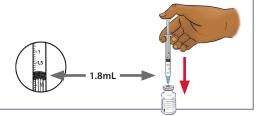
Clean stopper and allow to dry

- Open: flip off purple plastic cap without touching rubber stopper.
- Wipe rubber stopper with an alcohol swab for each dose drawn up.
- Allow to dry before inserting needle.



- 6 Dilute
 - Dilute in original vaccine vial:
 - Use a 2mL syringe and 21G or narrower needle. Ensure needle attached securely.
 - Withdraw 1.8mL of sodium chloride 0.9% for injection (preservative-free).
 - Remove needle from diluent and before adding diluent to vaccine vial, pull back plunger slightly to introduce a little bit of air into syringe this will help to get all diluent into vial.
 - Then inject this 1.8mL of diluent slowly into vaccine vial to prevent foaming.





How to draw up the Comirnaty® vaccine - continued

7

Equalise pressure in vial

Before removing needle from vial, pull needle up slightly so the tip is no longer in liquid and withdraw 1.8mL of air into empty diluent syringe.



Remove 1.8mL of air from vial



Updated - tips to obtain 6 doses.

8 Gently invert to mix and inspect

- Once diluted, gently invert (tip upside down) vaccine vial 10 times.
- Do not shake! If vial is shaken, discard.
- Contents of vial should be an off-white dispersion with no particles visible now. If discoloured or particles present, discard it.
- There is now 2.25mL after dilution, which provides at least 6 doses of 0.3mL.



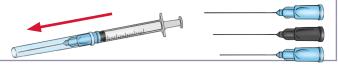
PRecord dilution time and date and new expiry

- Record time and date on vial that diluent added and new expiry time.
- Keep at room temperature (up to 25°C) for up to 6 hours.
- Discard any unused vaccine after 6 hours.
- Do not return to refrigerator or freezer storage.



Draw up: choose appropriate needle length

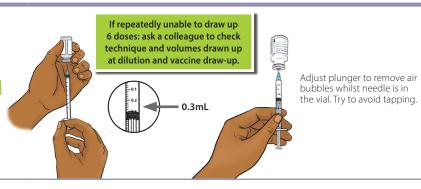
- Use a light blue 23G x 1" (25mm) needle unless client is obese. If obese, use instead one of the following:
- Black 22G x 1¼" (32mm) or blue 23G x 1½" (38mm).
- Attach needle securely to vaccine syringe (0.3mL, 0.5mL or 1mL syringe). Carefully uncap.



Withdraw vaccine and remove air bubbles

- Wipe vial stopper with an alcohol swab and allow to dry fully. Clean for each dose drawn up.
- Hold vial steady on flat surface and insert needle into rubber stopper. Then pick up vial and syringe and turn upside down to withdraw.
- Withdraw **0.3mL** of Comirnaty® COVID-19 vaccine.
- Adjust plunger to remove air bubbles whilst needle is still in the vial to avoid loss of vaccine. Try to avoid tapping syringe or vial.
- When drawing up 6th dose: insert needle into rubber stopper at an angle to allow access to vaccine in corner of vial.

Note: If amount of vaccine left in vial cannot provide a full 0.3mL dose, discard vial and contents into pharmaceutical waste. Do not combine vaccine from multiple vials to obtain a dose.



Do not change needles

- Do not change needles. Use the same needle that you have drawn up the dose to administer vaccine.
- Never leave a needle in the vaccine vial between drawing up doses.



Use vaccine within 6 hours of dilution.

How to administer the Comirnaty® vaccine

At the beginning of each day, check the emergency tray/box is fully equipped and discuss team members roles/responsibilities and processes in the event of emergency.

Position vourself well

- If not done already, complete pre-vaccination health check 5.
- Protect yourself: sit or stand sideways-on to client. Check that client's mask is covering his/her nose and suggest client looks straight ahead.
- Lower your chair if possible so eye level with injection site.



Check contents of syringe

- Check contents of syringe:
- Correct dose 0.3mL - Off-white suspension

- No particles
- No discoloration



Expose injection site fully

- Ask client to expose his/her non-dominant arm (the one s/he does not write with). If possible, ensure whole shoulder and upper arm can be seen.
- Injection site is usually on left arm unless client is left-handed or has a rash, bruise, tattoo, redness, swelling, or other medical condition (e.g. amputation) involving intended site, then use right arm instead.
- Document injection site on the EVDS if not left deltoid.
- Ask client to rest his/her left hand in his/her lap and relax arm.



Locate injection site

- Find bony tip of shoulder (acromion process). Measure 2-3 fingers (3-5cm) below this.
- Use other hand to form a triangle below this.
- The injection site should be in centre of triangle in thickest part of deltoid muscle.
- Remember where this point is.



• Clean with cotton wool and water. Do not use an alcohol swab.



Insert needle

- Hold syringe firmly between the thumb and forefinger like holding a pencil.
- Gently stretch and support the skin with other hand. Avoid bunching the skin unless very low muscle mass 5 15.
- Insert needle at 90° angle to skin into thickest part of muscle. Insert to hilt of needle (no silver from needle showing) to ensure delivery into muscle.
- Avoid pushing too far and dimpling skin.





How to administer the Comirnaty® vaccine - continued

7

Stabilise syringe and inject vaccine

- Move other hand to stabilise tip of syringe.
- Do not aspirate no need, as no large blood vessels here.
- Depress plunger and inject vaccine slowly.
- Ensure full dose given before withdrawing the needle.



8

Remove syringe safely

• Pull needle out quickly and smoothly.



9

Dispose of needle safely

- Immediately, dispose of needle and syringe safely in medical sharps container. Do not try to recap needle.
- Avoid filling sharps container more than three-quarters of its capacity, or up to red line marked on container.



10

Apply light pressure to injection site

- Apply gentle pressure with cotton wool/gauze. If bleeding tendency or on anticoagulants, apply prolonged pressure to site after injection.
- Avoid rubbing injection site.

11

Apply surgical tape

- Apply surgical tape to hold cotton wool in place.
- Ask client to stay seated for a few minutes to avoid risk of injury from fainting while you complete records.





Record and observe

- Complete vaccination card and give to patient.
- If this is the 1st injection of the two Comirnaty® doses, inform client of return date for second vaccination.
- Give client a post vaccination information leaflet.
- Record in EVDS/Vaccination Site data sheet.
- Ask client to remain for observation for at least 15 minutes after vaccination. If client known with severe allergies, observe for longer (30 minutes).



How to draw up Janssen® vaccine

1

Clean hands

- Follow an aseptic technique.
- · Clean hands well before vaccine preparation, between patients or at any time if hands become soiled.



2

Bring vaccine to room temperature

• Remove vaccine from refrigerator/cooler box and allow to come to room temperature for 15-30 minutes.



3 Check and inspect

- Check:
- Correct type of vaccine (concentration)
- Expiry date on vaccine
- Inspect:
- Check the colour: liquid should be colourless or slightly yellowish.
- Check the clarity: liquid should be clear to slightly shiny and free of visible/solid particles.
- Check that vial has no cracks, abnormalities or evidence of tampering.



4

Swirl vial to mix

- Mix contents before each draw: gently swirl vial in an upright position for 10 seconds.
- Do not shake!



5

Clean stopper and allow to dry

- Open: flip off blue plastic cap without touching rubber stopper.
- Wipe rubber stopper with an alcohol swab for each dose drawn up.
- Allow to dry before inserting needle.



How to draw up the Janssen® vaccine - continued

5 Draw up

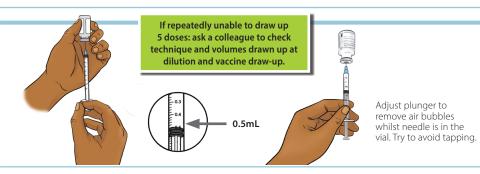
Choose appropriate needle length

- Use a light blue 23G x 1" (25mm) needle unless client is obese. If obese, use instead one of the following: -Black 22G x 1¼" (32mm) or blue 23G x 1½" (38mm).
- Attach to vaccine syringe (0.5mL or 1mL syringe). Ensure needle attached securely.
- Carefully uncap.



Withdraw vaccine and remove air bubbles

- Hold vial steady on flat surface and insert needle into rubber stopper. Then pick up vial and syringe and turn upside down to withdraw.
- Withdraw **0.5mL** of Janssen® COVID-19 vaccine.
- Adjust plunger to remove air bubbles whilst needle is still in the vial to avoid loss of vaccine. Try to avoid tapping syringe or vial.
- When drawing up 5th dose: insert needle into rubber stopper at an angle to allow access to vaccine in corner of vial.
- If amount of vaccine remaining in vial cannot provide a full dose of 0.5mL, mark and discard vial and any excess volume.



8 Do not change needles

- Do not change needles. Use the same needle that you have drawn up the dose to administer vaccine.
- Never leave a needle in the vaccine vial between drawing up doses.



9 Record time of first puncture and new expiry time

- Record the date and time the vial should be discarded on the vial label. After first puncture, vaccine (vial or filled syringe) can be held:
- In refrigerator (2-8°C) for up to 6 hours.
- At room temperature (up to 25°C) for up to 3 hours.
- Discard if vaccine is not used within this time.
- Preferably, use immediately after first puncture.



How to administer the Janssen® vaccine

At the beginning of each day, check the emergency tray/box is fully equipped and discuss team members roles/responsibilities and processes in the event of emergency.

Position yourself well

- If not done already, complete pre-vaccination health check 5.
- Protect yourself: sit or stand sideways-on to client. Check that client's mask is covering his/her nose and suggest client looks straight ahead.
- Lower your chair if possible so eye level with injection site.



Check contents of syringe

- Check contents of syringe:
- Correct dose 0.5mL
- Colourless slightly yellowish fluid

- No particles
- No discoloration



Expose injection site fully

- Ask client to expose his/her non-dominant arm (the one s/he does not write with). If possible, ensure whole shoulder and upper arm can be seen.
- Injection site is usually on left arm unless client is left-handed or has a rash, bruise, tattoo, redness, swelling, or other medical condition (e.g. amputation) involving intended site, then use right arm instead.
- Document injection site on the EVDS if not left deltoid.
- Ask client to rest his/her left hand in his/her lap and relax arm.

Locate injection site

- Find bony tip of shoulder (acromion process). Measure 2-3 fingers (3-5cm) below this.
- Use other hand to form a triangle below this.
- The injection site should be in centre of triangle in thickest part of deltoid muscle.
- Remember where this point is.



Clean

• Clean with cotton wool and water. Do not use an alcohol swab.





- Hold syringe firmly between the thumb and forefinger like holding a pencil.
- Gently stretch and support the skin with other hand. Avoid bunching the skin unless very low muscle mass 5 15.
- Insert needle at 90° angle to skin into thickest part of muscle. Insert to hilt of needle (no silver from needle showing) to ensure delivery into muscle.
- Avoid pushing too far and dimpling skin.



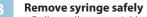




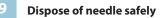
How to administer the Janssen® vaccine - continued

Stabilise syringe and inject vaccine

- Move other hand to stabilise tip of the syringe.
- Do not aspirate no need, as no large blood vessels here.
- Depress plunger and inject vaccine slowly.
- Ensure full dose given before withdrawing the needle.



• Pull needle out quickly and smoothly.



- Immediately, dispose of needle and syringe safely in medical sharps container. Do not try to recap needle.
- Avoid filling sharps container more than three-quarters of its capacity, or up to red line marked on container.

10 Apply light pressure to injection site

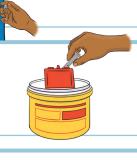
- Apply gentle pressure with cotton wool/gauze. If bleeding tendency or on anticoagulants, apply prolonged pressure to site after injection.
- Avoid rubbing injection site.

11 Apply surgical tape

- Apply surgical tape to hold cotton wool in place.
- Ask client to stay seated for a few minutes to avoid risk of injury from fainting while you complete records.

12 Record and observe

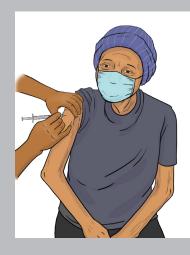
- Complete vaccination card and give to patient.
- Give client a post vaccination information leaflet.
- Explain that this is a one dose per client regimen and s/he does not need to return for another vaccine dose.
- Record in EVDS/Vaccination Site data sheet.
- Ask client to remain for observation for at least 15 minutes after vaccination. If client known with severe allergies, observe for longer (30 minutes).







Manage injection difficulties



Elderly and low BMI

If low muscle mass in elderly client or client with low BMI, it is acceptable to bunch up the deltoid muscle before administering IM injection.

Needle hits bone

• If needle hits bone during injection, pull needle back slightly and then inject.

Needle touches nerve

• If client complains of sudden burning, shooting pain during injection, it is likely needle too close to a nerve: remove needle and try again being careful to locate correct injection site using landmarks.

Vaccine leaks from injection site

- If vaccine leaks from injection site
- If vaccinator thinks most of dose leaked out of injection site, then revaccinate at same visit using a different injection site. Use same dose, as initial dose considered an invalid dose.
- If vaccinator thinks most of dose remained in injection site, then that dose can be considered a valid dose



Avoid inserting needle too far, causing a dimple in the skin, as more likely to hit bone.

Disposal of empty used vaccine vials

Once all the full doses have been drawn up, dispose of the vaccine vial appropriately:

- Using a pen or permanent marker, deface vial by scratching over the label taking care not to cover the batch number and expiry date.
- At the end of the day, discard vials:
- If vial empty, discard into yellow sharps container.
- If residual vaccine in vial, discard into pharmaceutical waste.
- Avoid filling sharps container more than three-quarters of its capacity, or up to red line marked on container. Clearly mark box with "COVID-19".







Observation post vaccination

- Observe client for at least 15 minutes after vaccination. If client known with severe allergies: observe for longer (30 minutes).
- Check for signs or symptoms that may indicate an adverse reaction:



Collapse →17

Feeling faint/cardiovascular symptoms

- Light-headedness or dizziness
- Feeling warm or cold
- Sweating
- Palpitations
- Nausea
- · Visual 'blurring' (darkening or white-out of vision)
- Reduced hearing ('whooshing' noise)
- Pallor reported by onlookers
- Ask client to lean forward and his/her head between knees, or lie down flat, for several minutes until feeling better.
- Loosen tight clothing undo buttons around neck, loosen tie/belt.
- Apply a cool cloth to his/her face or neck.
- · Calmly reassure client.

Do symptom/s improve quickly (minutes)?

Faintness likely
Observe until

Yes

symptoms resolve.

Skin/mucosal symptoms



- Itchiness
- Skin rash (hives)
- Swelling of eyes, lips, tongue, face, or hands/feet)
- Nasal congestion

Respiratory symptoms



- · Wheeze or cough
- Throat tightness
- Stridor
- Shortness of breath
- Hoarseness
- Oxygen sats < 92%
- Trouble swallowing
- Drooling

Gastrointestinal symptoms



- Nausea
- Vomiting
- Diarrhoea
- Cramps

Decide when to treat for anaphylaxis
Are signs or symptoms generalised: are 2 or more body systems involved?

Yes No: Are

Yes No: Are

Yes

Treat as anaphylaxis
→18.

No

No: Does patient have generalised urticaria involving the whole body?

No: Are signs or symptoms serious or life-threatening, even if only single body system (hypotension, respiratory distress, or significant swelling of the tongue or lips)?

No

- If isolated rash (raised, red rash in client who is otherwise well without other symptoms):
- Monitor for 30 minutes to pick up any other symptoms:
- If no other associated symptoms and client remains well, **pseudoallergic self-limiting rash** likely: reassure client and advise to take oral antihistamines.
- Advise to seek urgent health care if any of the following develop: swelling of face, lips or tongue; difficulty breathing, abdominal pain, nausea or vomiting.
- If other symptoms: discuss with doctor/specialist urgently.
- If in doubt, treat as anaphylaxis 518.

Collapse following vaccination

Collapse

- · Call for help.
- · Lie client on his/her back and raise legs.
- Check response: if unresponsive, check circulation, airway and breathing.
- If no pulse/not breathing, start CPR 5 PACK Adult.
- If breathing and pulse present: assess timing of collapse and duration of loss of consciousness and check breathing, pulse and BP:
- Collapse occurred suddenly, at the time of injection (before, during or immediately after).
- · Loss of consciousness usually lasts 20 seconds to 1 minute and is relieved by lying client down and raising legs.
- BP: briefly low but rapidly normal again.
- Pulse may be slow.
- Breathing usually normal but may be rapid, deep (hyperventilation).
- No other signs or symptoms present.

Fainting episode likely

Management:

- If not already done, lie client flat and raise legs.
- Loosen any tight clothing: undo buttons around the neck, loosen tie/or tight belt.
- Apply cool cloth to face/neck.
- Calmly reassure client explain what happened and assure them that they will be alright.
- Check for any other injuries they may have sustained falling.
- Stay with the client until they are fully recovered. Client should remain lying with legs up until feeling better.

Refer if:

- · Head injury.
- Known with a heart condition or other serious illness.
- Client has unusual symptoms, such as chest pain, shortness of breath, confusion, blurred vision, or difficulty talking.

Report:

- Complete NDoH Case Reporting Form (CRF) for Adverse Events Following Immunisation (AEFI) and report to sub-district or district office and provincial EPI manager within 24 hours 523.
- Replace all medications/equipment used and seal emergency kit.

- Collapse occurred 5-10 minutes after the injection (could occur up to 1 hour after).
- Loss of consciousness is not brief and not relieved by lying client down and raising legs.
- BP < 90/60 and remains low
- Pulse > 120
- Breathing: may have wheeze, stridor, cough
- Other signs and symptoms (like swelling or rash) present.

Treat as anaphylaxis \rightarrow 18.

Treat suspected anaphylaxis

Manage and refer urgently:

Priority management

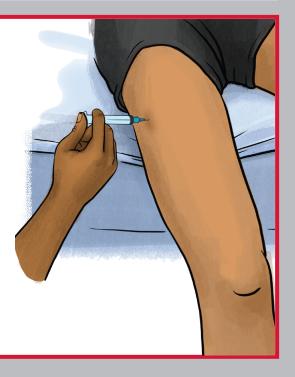
- Lie client down and raise legs.
- Call for help: ask colleague to inform supervisor and doctor, if available. Ask colleague to call emergency medical services and report suspected anaphylaxis.
- Give immediately adrenaline 0.5mL (1:1000 solution) IM into mid outer thigh. Repeat every 5 minutes if needed. Adrenaline is the vital part of anaphylaxis management.
- · Insert IV line and check BP:
- If BP < 90/60 despite adrenaline: give sodium chloride 0.9% 1-2L IV rapidly.
- Then, if BP still < 90/60, give further sodium chloride 0.9% 500mL IV rapidly, repeat until systolic BP > 90. Stop if breathing worsens.
- Give oxygen, if available, 8-10L/min via facemask or up to 100% oxygen, as needed.

Adjunctive treatment:

- If persistent wheeze or difficulty breathing despite adrenaline, also give salbutamol 2-3 puffs via spacer and face mask, if available. Repeat, as needed. Note: if nebuliser available and client not responding to inhaler: nebulise salbutamol 0.5% 0.5-1mL (2.5-5mg) and ipratropium bromide 2mL (0.5mg) in up to 4mL sodium chloride 0.9%.
- If severe symptoms or if known asthma and wheeze persisting after other anaphylaxis symptoms/signs have resolved, give promethazine 25-50mg IM or slow IV over 10-15 minutes and hydrocortisone 200mg IM/slow IV.

· Refer all cases of suspected anaphylaxis.

- If delay in referral: take blood within 2 hours of symptom onset, if possible, to confirm vaccine-related anaphylaxis (tryptase sampling):
- Collect blood in 2x yellow topped tubes (SST) and send with client on referral. If delay > 4 hours, store on ice.



Report:

- Complete NDoH Case Reporting Form (CRF) for Adverse Events of Special Interest (AESI) and report to sub-district or district office and provincial EPI manager within 24 hours 5 21.
- Replace all medications/equipment used and seal emergency kit.

May 2021

Just had the COVID-19 vaccine? Well done and thank you!

Mild side effects are common in the first 3 days. Here's what to look out for.











re or red Fever/

Fatigue Muscle aches Nausea

- Side effects can start around 6 hours after the vaccine and usually resolve in 2-3 days. If needed, treat pain and fever with paracetamol.
- Side effects may be more noticeable if you are young, had COVID-19 before or after the second dose of a 2-dose vaccine course.

These side effects show your body is building an immune response. The technical term for this is 'reactogenicity'. If you do not get side effects it does not mean that your body is not building an immune response.

- If your side effects are severe or last longer than 3 days, contact your healthcare provider or the Western Cape call centre.
- If any of the following symptoms develop within a month of vaccination, go to your nearest emergency centre:
- New-onset severe headache especially if with blurred vision, vomiting, weakness on one side of the body or difficulty speaking.
- Severe abdominal pain that does not go away.
- A rash of tiny red spots around the site of injection.
- A painful or cold leg.
- Chest pain or shortness of breath.

Extremely rare side-effects affect 1-7 people per million vaccinated

They include a severe allergic reaction called anaphylaxis (within minutes to hours) and a rare form of blood clots (between 4 days and 3 weeks).







Keep your vaccine card safe.

- This is your proof of vaccination.
- Keep your follow-up appointment if you have one.

Some vaccines are given in two doses (for example Pfizer-BioNTech (Comirnaty™) COVID vaccine). The second dose is important to boost your body's immune response to the vaccine and help its protective effect last longer.

You might still get COVID-19. Here's why.

- You cannot catch COVID-19 from the vaccine as there is no live coronavirus in it.
- It is still possible to get COVID-19 as no vaccine is 100% effective.
- You might have caught COVID-19 before being vaccinated (it can take up to 2 weeks before COVID-19 symptoms start).
- You might catch it within the first 2 weeks after being vaccinated while your immune system is being trained up to fight COVID-19.



May 2021

After vaccination, don't confuse vaccine side effects with COVID-19 symptoms!

- If your fever lasts more than 2 days or you develop a continuous cough, sore throat, or changes in your ability to taste or smell after your vaccination, you may have COVID-19.
- Isolate yourself and arrange to get a COVID test. Contact your healthcare provider or the Western Cape call centre.

Even if you do get COVID-19, you are very unlikely to get severely ill or die from COVID-19.

Western Cape call centre: 0860 142 142



We still don't know if the vaccine will stop the spread. Don't forget COVID-19 prevention!

- Wear a mask in public.
- Keep apart from others outside your home as much as possible.
- Avoid crowds and confined spaces have small gatherings outside.
- Wash or sanitise your hands regularly.
- As a healthcare worker, continue to wear standard PPE at work.



We are not safe until we are all safe.







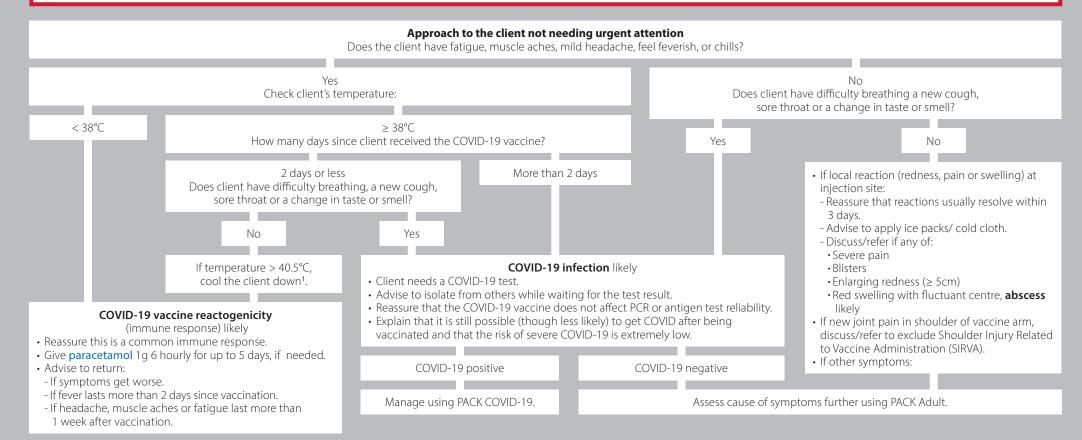
Symptoms post vaccination

Note: no routine follow up visit is required. Use this page to manage clients who actively seek care. Report adverse events as an Adverse Event Following Immunisation (AEFI) 🗅 23.

Give urgent attention to the client who has had a COVID-19 vaccination within the last month and any of:

- Decreased consciousness
- Seizures (fits)
- New neurological symptoms (weakness on 1 side, sensory loss)
- Respiratory rate ≥ 30 or difficulty breathing
- BP < 90/60
- Temperature ≥ 38°C in elderly or frail clients who aren't able to take oral fluids well
- Blurred vision
- Severe and/or persistent headache (usually > 4 days after vaccine)
- Persistent severe abdominal or back pain
- Chest pain
- · Severe leg pain or swelling of leg
- New or easy bleeding/bruising

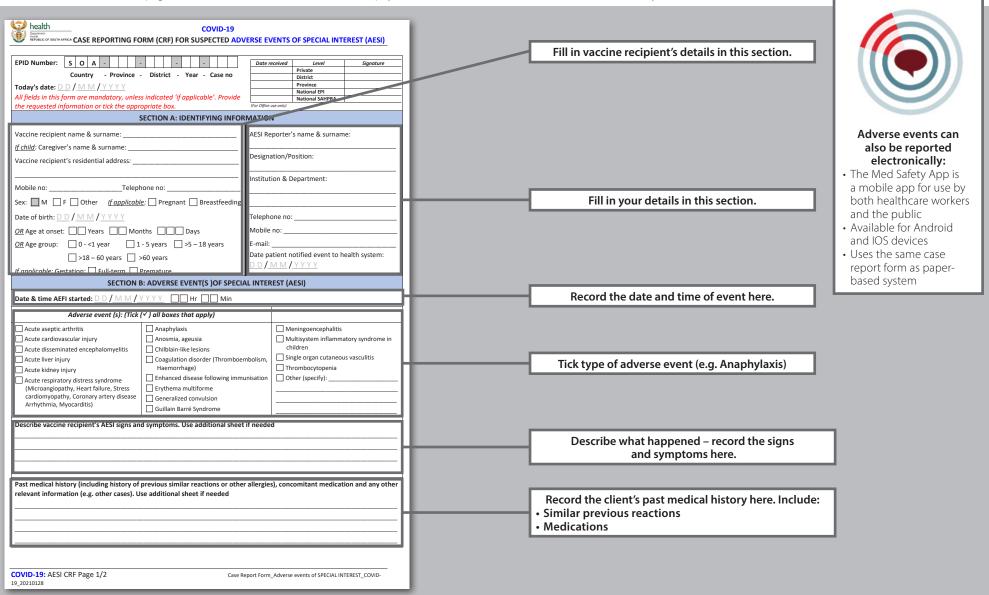
Refer urgently.



¹Cool the client down: give paracetamol 1g orally. Remove clothing. Use fan and water spray to cool client. Apply ice-packs to axillae, groin and neck. Stop once temperature < 39°C.

How to complete an AESI form page 1

- · AESI is an 'Adverse Event of Special Interest' and refers to certain pre-chosen medically important events that may have potentially been caused by the vaccine product.
- The list of these events is on page 1, Section B of the form, and includes anaphylaxis, thromboembolism, convulsions, Guillain barre syndrome.

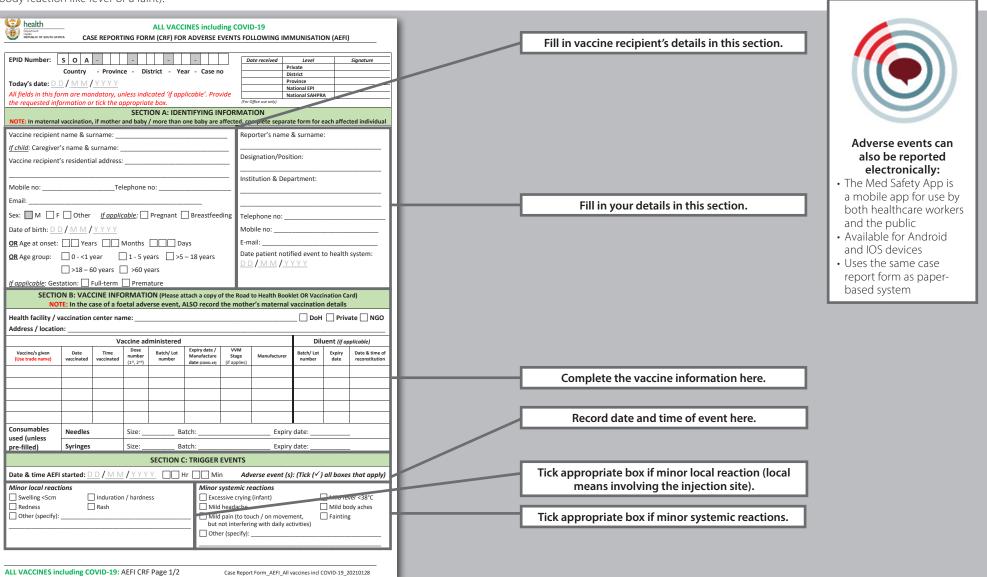


How to complete an AESI form page 2

Patient name &	surname:				E	PID Numbe	r:			
	CECTI	ON C. PP	ELINAMA	V ACCTOCA	IENT AND	ACTIONS AT	THE TIME OF	DEDORT		
SECTION C: PRELIMINARY ASSESSMENT AND ACTIONS AT THE TIME OF REPORT Did this AESI cause? Death Hospitalisation Disability Life threatening Other important medical events (Specify):										
Outcome at the time of reporting: Recovering Recovered fully (no complications) Not Recovered Unknown										
Recovered v	vith sequelae;	Specify:								
☐ Died → Dat	e of death: D	D/MM	<u>/////</u>	<u>Y</u> → F	ull autopsy	done: Y	es 🗌 No 📗] Unknown	ı	
If NO, verbal au	topsy done?	Yes	No							
Hospitalisati	on 👈	Date of a	dmission:	DD/M	<u> </u>	Y				
	→	Name of	hospital:				Hospital nun	nber:		
Did this person	receive a COV	/ID-19 va	ccine?	Yes N	o 🗌 Unkn	own If Yes, C	omplete Sect	tion E belo	w	
	SECTION I	D: VACC	INE INFO	RMATION	l (Please at	tach a copy	of the Vaccin	ation Reco	rd)	
Health facility /	vaccination c	enter na	me:					DoH	Priva	ate NGO
Address / locati	on:									
		COVID-		e administ	T	Funday 4-4- 1		Dil	uent (if ap	i i
Vaccine given (Use trade name)	Manufacturer	number (1st, 2nd)	Date vaccinated	Time vaccinated	Batch/ Lot number	Expiry date / Manufacture date	Immunisation record number	Batch/ Lot number	Expiry date	Date & time of reconstitution
		(1',2')				uate				
Consumables	Needles		Size:		atch:		Expiry			=
used	Syringes of Non-COVI	D10	Size:		atch:	/1 les edditis	Expiry			
Details	or Non-COVI	D19 vacc	ines recen	vea in the	iast 1 year	(USE additio	nai page ii tn	ere are mo	ore vaccii	nesj
ļ										
Consumables used (unless	Needles		Size:	Ba	atch:		Expiry	date:		=
pre-filled Syringes Size: Batch: Expiry date:										
							COMPLETE			
AFFIfirmti-							nd unvaccinat	lea		
AEFI confirmation initiated: Yes No If YES, confirmation done by Dr/Mr/Ms										
Is this AESI linelisted? Yes No										
For COVID-19 va				n planned	with AESI i	nvestigation	form? Ye	s No		
If YES, date plan	ned: <u>D D / IV</u>	1 IVI / T		ν Ε: ΝΔΤΙ	NAL LEVI	L TO COMI	PLETE			
Date report rec	eived at Natio	nal Leve			1	I worldwide				
	eiveu at ivatio	ilai Leve	. <u>DD</u> / IV	1 101 / 1 1	AES	i woriawiae	unique iD:			
Comments:										
	IMPOR						AEFI@he	alth.gov	<u>.za</u>	
AND copy the EPI District Surveillance Officer										
COVID-19: AESI	CRF Page 2/	2				Case Report F	orm_Adverse eve	ents of SPECIA	AL INTEREST	T_COVID-

How to complete an AEFI form page 1

- AEFI is 'Adverse Event following immunisation'.
- Fill out this form if a client develops any adverse reaction or event after receiving the vaccination. Events can be minor or severe and local (involving the injection site) or systemic (involving a whole body reaction like fever or a faint).



How to complete an AEFI form page 2

Patient name & surname:	EPID	Number:			Tick appropriate box if severe local reaction involving the injection site.
Severe local reactions	Severe systemic reactions			1	
Pain, redness and/or swelling >3 days	Hospitalisation	☐ Death	Collapse/ shock-like state		
Swelling >5cm	☐ Fever ≥38°C	Thrombocytopenia	Anaphylaxis		
Swelling beyond nearest joint	Seizures Febrile Afebrile	Encephalopathy	Sepsis		
Lymphadenitis	Toxic shock syndrome	☐ Vomiting	Diarrhoea		
Abscess	Other (specify):				Tick appropriate box if severe systemic reaction involving the whole body.
Necrosis at vaccination site	Foetal adverse reactions in the case of				g
Other (specify):	Decreased FHR variability	Decreased foetal move			
	Onset of preterm labour, assessed				
	Foetal anomaly assessed to be po- with pre-pregnancy or 1st trimeste		congenital anomaly reasible		
	Foetus affected by maternal immu		Iministered to mother)		
NOTE: Severe or serious	adverse event > Immediately not	tify District Office for Cas	e Investigation		
Describe vaccine recipient's or caregive	ver's concern (AEFI signs and sympt	oms). Use additional she	et if needed		
					Describe in words what the concern in this case is .
Were there any other similar AEFIs re	ported in the facility in the past 30	days? 🗌 Yes 🗌 No (If y	res, specify)		Describe any other similar reports.
					Describe any other similar reports.
	SECTION D: PAST MEDICAL	HISTORY			
Past medical history (including history	of previous similar reactions or ot	her allergies), concomita	nt medication and dates of	_	Record the client's past medical history here. Include:
administration (exclude those used to	· · · ·				Similar previous reactions
l '					• Medications
					• Medications
SECTION E: PREL	IMINARY ASSESSMENT AND ACT	TIONS AT THE TIME OF	REPORT		
Is this event a serious AEFI? Yes	No If Yes, tick (√) in the appro	priate box below			Indicate one or more of the consequences of the AEFI
☐ Death ☐ Hospitalisation ☐ Disa	bility Life threatening Conge	enital anomaly in off-sprir	g of vaccine recipient		i.e why you consider it a serious reaction.
Comments:					i.e wily you consider it a serious reaction.
SECTION F: WHAT WAS THE	OUTCOME OF THE CASE FOLLO	WING THE SUSPECTED	AEFI in VACCINEE?		
Recovering Recovered fully (n	o complications) Not Recovered	Unknown		1	
Recovered with sequelae; Specify:					
☐ Died → Date of death: D D / M N	Autopsy:	s No Ulnknown			Record what the outcome of the AEFI was at time of reporting.
1		S INO CIIKIIOWII			
→ Date of a Name of	admission: DD/MM/YYYY	Hospital numbe	r·		
	ON G: FIRST DECISION MAKING		·· <u></u>		
			□ No.		This section is for the first decision-making level to complete (Facility/sub-
Case investigation needed: Yes		Office notified: Yes			district/district level. If serious or severe AEFI, investigation required.)
Date investigation planned: DD / M		te notified: DD/MM	/ <u> </u>		
	SECTION H: NATIONAL LEVEL T				
Date report received at National Leve	I: UU/ IVI IVI / Y Y Y Y AEFI wo	ridwide unique ID:			This section will be completed at National level.
Comments:					This section will be completed at Hational level
IMPORTANT:	Email this form within 24 h	ours to <u>AEFI@healt</u>	h.gov.za		Scan and email completed forms within 24 hours to
AN	<u>ID</u> copy the EPI District Sur	veillance Officer			
					AEFI@health.gov.za and cc in district level coordinators (find contact details in WC Circular H22/2021 - 01 March 2021).
ALL VACCINES including COVID-19:	AEFI CRF Page 2/2	Case Report Form_AEFI_All vacci	nes incl COVID-19_20210128		

Acknowledgements

This PACK Vaccine guidance was developed by Sandy Picken, Ruth Cornick, and Lara Fairall, with layout by Nabeelah Kleinsmith and accompanying training by Christy-Joy Ras and Cass Bassett of the Knowledge Translation Unit, University of Cape Town Lung Institute. Illustrations by Heidel Dedekind. The KTU would like to thank the following clinicians, policy makers and end-users for their input with special thanks to Helen Hayes, Vanessa Mudaly, Sonia Botha and Roseanne Turner.

References

- WC Provincial Pharmacy and Therapeutics Committee (PPTC) Presentation: Focus on storage and administration of Comirnaty® and J&J (Janssen®) vaccine. H Hayes. 09 April 2021.
- Knowledge Hub. NDoH COVID-19 vaccine training.
- NDOH. Cold Chain and Immunisation Operations Manual. 2015.
- NDOH. Vaccinator's Manual. Expanded Programme on Immunisation in South Africa (EPI-SA). 4th edition. January 2015.
- NDOH. COVID-19 Vaccination Field Guide, Draft 11 May 2021.
- WCG Circular H22/2021: Adverse Events Following Immunisation (aefi) monitoring for COVID-19 vaccination. 01 March 2021.
- FDA. EUA. Fact sheet for healthcare providers administering vaccine (vaccination providers). Emergency use authorization (EUA) of the Pfizer®-Biontech COVID-19 vaccine to prevent coronavirus disease 2019 (COVID-19). Revised: 10 May 2021.
- J&J. Summary of product characteristics. COVID-19 Vaccine J&J suspension for injection COVID-19 vaccine (Ad26.COV2-S [recombinant]).
- CDC. Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in the United States. Updated 27 April 2021. https://www.cdc.gov/vaccines/covid-19/info-by-product/clinical-considerations.html [Accessed 10 May 2021].
- CDC. Wolicki J, Miller E. Vaccine Administration. https://www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html Updated November 2020. [Accessed 04 May 2021].
- UpToDate: COVID-19: Vaccines to prevent SARS-CoV-2 infection. Updated 07 May 2021. https://www.uptodate.com/contents/covid-19-vaccines-to-prevent-sars-cov-2-infection [Accessed 10 May 2021].
- BMJ Best Practice: Coronavirus disease 2019 (COVID-19): Primary prevention. https://bestpractice.bmj.com/topics/en-gb/3000201/prevention [Accessed 10 May 2021].
- GOV.UK. Information for Healthcare Professionals on Pfizer®/BioNTech COVID-19 vaccine.
- FDA. Fact sheet for recipients and caregivers. Emergency Use Authorization (EUA) of the Pfizer®-Biontech COVID-19 vaccine to prevent coronavirus disease 2019 (COVID-19) in individuals 16 years of age and older. Revised: 10 May 2021.
- CDC. Pfizer®-BioNTech COVID-19 Vaccine: Vaccine Preparation poster.02/18/2021 CS321570-N.
- CDC. Pfizer®-BioNTech COVID-19 Vaccine: Vaccine Preparation and Administration Summary. 03/15/2021 4 CS321570-F.
- CDC. COVID-19 Vaccine: Administration Errors and Deviations. 03/17/2021 CS321629-Y.
- Administering Vaccines to Adults: Dose, Route, Site, and Needle Size. www.immunize.org/catg.d/p3084.pdf-Item #P3084 (8/20) [Accessed 3 May 2021].
- Shimabukuro T, Kim S, Myers TR et al for the CDC v-safe COVID-19 Pregnancy Registry Team. Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons. NEJM. April 21, 2021. DOI: 10.1056/NEJMoa2104983 [Accessed on 26 April 2021].
- Jacobson BF, Schapkaitz, E, Mer M, et al on behalf of the Southern African Society of Thrombosis and Haemostasis. Recommendations for the diagnosis and management of vaccine-induced immune thrombotic thrombocytopenia. SAMJ. S Afr Med J. Published online 20 April 2021. https://doi.org/10.7196/SAMJ.2021.v111i7.15772
- Bjornstad M, Kosinski T, Burlage R. Evaluation of the Efficacy and Superiority of Different Vial Rubber Closure Disinfection Techniques. Int J Pharm Compd. 2020 Sep-Oct;24(5):434-438. PMID: 32886643.
- Aphapharmacists. Vaccine Administration Techniques. https://www.youtube.com/watch?v=-STH2nfClk8. [Accessed 20 April 2021].
- ImmunizeCanada. Intramuscular and subcutaneous injections: A guide for pharmacists. https://www.youtube.com/watch?v=5axQQpTzxAE. [Accessed 21 April 2021].
- University of Kansas, Davidow L. Vaccine Injection Technique Lecture and Demonstration. 17 November 2020. https://www.youtube.com/watch?v=Y3CQ0kMIbII. [Accessed 19 April 2021].





Practical Approach to Care Kit: Vaccine

© 2021, Department of Health, Western Cape Government, South Africa - PACK Vaccine 2021 (Western Cape Edition), as specifically adapted for use in the Western Cape, South Africa in and during 2021. © 2021, University of Cape Town Lung Institute (Pty) Ltd - all rights of copyright vesting in all the original works and material used by the University of Cape Town Lung Institute (Pty) Ltd in the preparation and development of the PACK Vaccine 2021 (Western Cape Edition), in and during 2021.