

# Omaha Metropolitan Healthcare Coalition COVID-19 Vaccine Quick Reference Guide

## Vaccines: Storage and Handling

Storage/Handling	Janssen Biotech (UNJ-78436735) <sup>1-3</sup>	Moderna (mRNA-1273) <sup>4-6</sup>	Pfizer-BioNTech (Comirnaty [BNT162b2]) <sup>8-13</sup>	
Dry ice	Do not use; not stored frozen	Do not use	Thermal shipping container may be used as temporary storage for up to 30 days from delivery with proper dry ice replenishment.	
Freezer storage	Do not store frozen	-50°C to -15°C <ul style="list-style-type: none"> <li>Protect from light until ready to use</li> <li>Keep in original packaging</li> <li>Do not store below -50°C</li> </ul>	-90°C to -60°C until expiration date <ul style="list-style-type: none"> <li>Purple cap vials may be stored at -25°C to -15°C for up to 2 weeks, and then may be returned <u>one</u>-time to -90°C to -60°C storage (track storage time/temperature)</li> <li><b>DO NOT STORE</b> Gray/Orange cap vials in freezer (-25°C to -15°C)</li> <li>Keep in original packaging and protect from light until ready to use</li> <li>Vials expire 9 months from manufactured date regardless of storage</li> </ul>	
Refrigerator storage	2°C to 8°C	2°C to 8°C for up to 30 days	2°C to 8°C for up to 1 month for Purple cap vials and 10 weeks for Gray/Orange cap vials <ul style="list-style-type: none"> <li>Minimize room light exposure and avoid exposure to direct sunlight/ultraviolet light</li> </ul>	
Refrigerator thawing	<ul style="list-style-type: none"> <li>Vaccine is initially stored frozen by the manufacturer, then shipped at 2°C to 8°C. If vaccine is still frozen upon receipt, thaw at 2°C to 8°C.</li> </ul>	<ul style="list-style-type: none"> <li>Maximum 11 Dose Vial (5.5 mL Vial) Thaw in refrigerator (2°C to 8°C) for 2.5 hours</li> <li>Maximum 15 Dose Vial (7.5 mL Vial): Thaw in refrigerator (2°C to 8°C) for 3 hours</li> <li>After thawing, let each vial stand at room temperature for 15 minutes prior to administering.</li> </ul>	<ul style="list-style-type: none"> <li>Thaw in refrigerator (2°C to 8°C); may take up to 6 hours depending on cap vial color and/or number of vials</li> <li>Vials that require dilution must be at room temperature at least 30 minutes prior to diluting</li> </ul>	
Room temperature thawing	<ul style="list-style-type: none"> <li>If needed immediately, thaw at room temperature (maximally 25°C). At room temperature (maximally 25°C), a carton of 10 vials will take ~4 hours to thaw, and an individual vial will take ~1 hour to thaw.</li> <li>Unpunctured vials may be stored between 9°C to 25°C for up to 12 hours.</li> </ul>	<ul style="list-style-type: none"> <li>Maximum 11 Dose Vial (5.5 mL Vial): Thaw at room temperature (15°C to 25°C) for 1 hour</li> <li>Maximum 15 Dose Vial (7.5 mL Vial): Thaw at room temperature (15°C to 25°C) for 1 hour and 30 minutes</li> <li>Unpunctured vials may be stored between 8°C to 25°C for up to 24 hours.</li> </ul>	<ul style="list-style-type: none"> <li>Thaw at room temperature (up to 25°C) for 30 minutes</li> <li>Vials that require dilution must be at room temperature for 30 minutes prior to diluting</li> <li>Must dilute Purple cap vials that require dilution within 2 hours of reaching room temperature</li> </ul>	
In vial	<ul style="list-style-type: none"> <li>Stable for up to 6 hours from first puncture at 2°C to 8°C or up to 2 hours at room temp (max 25°C)</li> <li>Discard vial if not used within these times</li> </ul>	<ul style="list-style-type: none"> <li>Stable for up to 12 hours from initial vial piercing at 2°C to 25°C</li> <li>Discard after 12 hours</li> </ul>	<p><b>PURPLE cap vials</b></p> <ul style="list-style-type: none"> <li>Stable for up to 6 hours from dilution at 2°C to 25°C</li> <li>Discard after 6 hours</li> </ul>	<p><b>GRAY/ORANGE cap vials</b></p> <ul style="list-style-type: none"> <li>Stable for up to 12 hours from dilution at 2°C to 25°C</li> <li>Discard after 12 hours</li> </ul>
In syringe	<ul style="list-style-type: none"> <li>Filled syringes stable for up to 6 hours stored in refrigerator (2°C to 8°C) or 2 hours stored at room temperature (max 25°C) after first vial puncture</li> </ul>	<ul style="list-style-type: none"> <li>Stable for up to 12 hours from initial vial puncture (Labeling and time stamp recommended) &lt;letter on file&gt;<sup>18</sup></li> <li>Store in refrigerator (2°C to 8°C) or at room temperature (15°C to 25°C)</li> <li>Keep out of direct sunlight</li> </ul>	<p><b>PURPLE cap vials</b></p> <ul style="list-style-type: none"> <li>Stable for up to 24 hours from dilution at 2°C to 30°C ± 2°C in polycarbonate and polypropylene syringes with stainless steel needles, with no more than 6 hours at room temperature (up to 30°C) and remainder in refrigerator (2°C to 8°C)</li> </ul>	<p><b>GRAY/ORANGE cap vials</b></p> <ul style="list-style-type: none"> <li>Stable for up to 24 hours from dilution at 2°C to 30°C ± 2°C in polycarbonate and polypropylene syringes with stainless steel needles, with no more than 12 hours at room temperature (up to 30°C) and remainder in refrigerator (2°C to 8°C)</li> </ul>
Notes	<ul style="list-style-type: none"> <li>Never refreeze vaccines after thawing.</li> <li>CDC states that pre-drawing vaccines may result in waste if more are drawn up than necessary, so they state that vaccines should be drawn only in preparation for immediate administration.</li> </ul>			

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## Vaccine Differences & Practical Considerations

	Janssen Biotech (JNJ-78436735) <sup>1-3</sup>	Moderna (mRNA-1273) <sup>6-7,18</sup>	Pfizer-BioNTech (Comirnaty [BNT162b2]) <sup>12,14,15</sup>
FDA status	EUA	EUA	<p>FDA-approved (primary two-dose series in 16+ years)</p> <p>EUA (primary two-dose series in 5+ years; 3rd primary series dose in 5+ years with certain immunocompromising conditions; booster dose)</p>
Age minimum	18 years	18 years	5 years
Dose	0.5 mL	0.5 mL	0.3 mL for 12+ years 0.2 mL for 5-11 years
Dose interval dose 1 to 2	N/A; Single dose	<p>4 weeks</p> <ul style="list-style-type: none"> <li>3<sup>rd</sup> primary series dose ≥1 month after the 2<sup>nd</sup> dose is authorized in patients (≥18 years) who have undergone solid organ transplant or are diagnosed with conditions considered to have an equivalent level of immunocompromise</li> </ul>	<p>3 weeks</p> <ul style="list-style-type: none"> <li>3<sup>rd</sup> primary series dose ≥28 days after the 2<sup>nd</sup> dose is authorized in patients (≥5 years) who have undergone solid organ transplant or are diagnosed with conditions considered to have an equivalent level of immunocompromise</li> </ul>
Booster dose	0.5 mL* *Moderna or Pfizer-BioNTech as a booster dose is preferred to Janssen in most situations	0.25 mL	0.3 mL (for 12+ years only)
Booster dose interval (after receiving respective primary series)	At least 2 months after primary series	At least 5 months after primary series	At least 5 months after primary series
Dilution required? Additional instructions	<ul style="list-style-type: none"> <li>DO NOT DILUTE</li> <li>Before withdrawing each dose of vaccine, carefully mix the contents of the multi-dose vial by swirling gently in an upright position for 10 seconds. <b>Do not shake.</b></li> <li><b>Do not pool vaccine from multiple vials.</b></li> </ul>	<ul style="list-style-type: none"> <li>DO NOT DILUTE</li> <li>Swirl gently after thawing and between each withdrawal. <b>Do not shake.</b></li> <li>Pierce stopper at different site each time.</li> <li>Do not puncture individual vial stopper more than 20 times.</li> <li><b>Do not pool vaccine from multiple vials.</b></li> </ul>	<p style="background-color: #d1ecf1; padding: 2px;"><b><u>PURPLE cap and label border</u></b> (for 12+ years only)</p> <ul style="list-style-type: none"> <li>DILUTE</li> <li>After vial reaches room temperature invert vial 10 times; dilute with <b>1.8 mL of Preservative-Free</b> 0.9% Sodium Chloride (USP) for Injection and remove 1.8 mL of air from vial; invert vial 10 times. <b>Do not shake.</b></li> <li>Must be diluted within 2 hours of reaching room temperature</li> <li><b>Do not pool vaccine from multiple vials.</b></li> </ul> <p style="background-color: #d1ecf1; padding: 2px;"><b><u>GRAY cap and label border</u></b> (for 12+ years only)</p> <ul style="list-style-type: none"> <li>DO NOT DILUTE</li> <li>Before withdrawing each dose of vaccine, carefully mix by inverting vaccine vial gently 10 times. <b>Do not shake.</b></li> <li><b>Do not pool vaccine from multiple vials.</b></li> </ul> <p style="background-color: #fff3cd; padding: 2px;"><b><u>ORANGE cap and label border</u></b> (for 5-11 years only)</p> <ul style="list-style-type: none"> <li>DILUTE</li> <li>After vial reaches room temperature invert vial 10 times; dilute with <b>1.3 mL of Preservative-Free</b> 0.9% Sodium Chloride (USP) for Injection and remove 1.3 mL of air from vial; invert vial 10 times. <b>Do not shake.</b></li> <li><b>Do not pool vaccine from multiple vials.</b></li> </ul>

Number of primary series doses per vial per fact sheet	5	10-15 (depends on vial size)	6-10 (depends on vial size)
Vial types and number of full doses per vial based on experience	Maximum 5-Dose vial NDC 59676-580-15	Two Vial Sizes: Maximum 11-Dose vial (10-11 doses) NDC 80777-273-99 Maximum 15-Dose vial (13-15 doses) NDC 80777-273-98	Three Vial Types: Purple Cap and Label 6-Dose vial (6-7 doses) NDC 59267-1000-3, NDC 59267-1000-2 Gray Cap and Label 6-Dose vial (6-7 doses) NDC 59267-1025-4, NDC 59267-1025-3 Orange Cap and Label 10-Dose vial (10 doses) NDC 59267-1055-4 If using low dead-volume syringes with pre-attached needles, 6-7 doses can usually be obtained from the 6-dose vial. If not, the average number of full-doses/vial is ~5.4
Determining number of vials to thaw	Vials are stored refrigerated, no need to thaw	Consider 'no shows' and vials currently stored and/or thawing in the refrigerator. <b>Example Calculation:</b> ▶ 609 vaccinations scheduled*1 (100% show rate)/10 = 60.9 vials (round up) ▶ 61 – 2 vials from previous clinic – 10 vials thawing in refrigerator = remove 49 vials from freezer	Consider 'no shows' and vials currently stored and/or thawing in the refrigerator. <b>Example Calculation:</b> ▶ 609 vaccinations scheduled*1 (100% show rate)/5.5 = 110.7 vials (round up) ▶ 111 vials - 2 vials remaining in refrigerator = remove 109 vials from freezer
If vaccine is defective, damaged, or mishandled	Call Janssen Medical Information: 1-800-565-4008	Call Moderna Medical Information: 1-866-663-3762	Call Pfizer Medical Information: 1-800-438-1985
Needle length <sup>16</sup>	For intramuscular injection in adults 19 years of age and older who weigh ≥260 lbs (men) or ≥200 lbs (women), a 1.5-inch needle should be used.		
Injection site <sup>17</sup>	Deltoid muscle of arm. Alternately, the anterolateral thigh may be used (dose should be pulled with 1.5-inch needle/syringe combination intended for use).		
Booster administration <sup>19</sup>	If eligible, all boosters are interchangeable for administration, however only Pfizer-BioNTech can be used as a booster in those age 12-17.		

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