猴痘疫苗 JYNNEOS®使用及管理方案

111 年 10 月

壹、前言

世界衛生組織(WHO)於 111 年 7 月 23 日宣布猴痘疫情列為國際關注公共衛生緊急事件(PHEIC)；針對猴痘疫情控制，仍建議以公衛措施為主要手段，包括監測、接觸者追蹤、病患隔離與治療照護，並可對高風險族群接種疫苗。為防治猴痘疫情，衛生福利部已於 111 年 6 月 23 日公告猴痘為第二類法定傳染病，並依專家建議採購猴痘疫苗 JYNNEOS®，有關疫苗使用對象、接種時機/劑量及接種實務，已提經衛生福利部傳染病防治諮詢會預防接種組(ACIP)111 年第 6、7 次會議討論，為利該疫苗使用與管理，爰訂定本方案。

貳、使用對象

依據 111 年 8 月 8 日衛生福利部傳染病防治諮詢會預防接種組(ACIP)111 年第 6 次會議決議，包括以下對象：

一、 暴露前預防(PrEP)：正痘病毒屬之實驗室操作人員（病毒培養）。

二、 暴露後預防(PEP)：「猴痘疫情調查及接觸者追蹤指引之接觸者匡列處置原則」所列高暴露風險密切接觸者（如附件 1）。

三、 其他特殊狀況報經疾管署同意者。

參、接種地點

由衛生局指定之衛生所/健康服務中心或協調轄區醫療院所辦理。

肆、疫苗簡介

一、疫苗特性與成分：我國儲備之猴痘疫苗 JYNNEOS®，為丹麥 Bavarian Nordic A/S 公司產製之減毒活性非複製型疫苗(live-attenuated, non-replicating) ，是第一個獲准用於預防猴痘的疫苗。為單劑型包裝，

每劑 0.5mL 含有 0.5 x 10^8 IU 至 3.95x 10^8 IU 非複製型經修飾之牛痘病毒 (non-replicating, live Modified Vaccinia Virus Ankara - Bavarian Nordic) ，用於 18 歲以上具猴痘感染風險之成人，預防猴痘感染（仿單如附件 2)。

二、接種時機：高風險接觸者應在最後一次暴露後 4 天內接種，以達最佳預防效果。若在暴露後 4 至 14 天內接種，則無法預防發病，僅可降低疾病嚴重程度；若高風險接觸者為嚴重免疫不全、孕婦、孩童等易併發重症之對象，可經諮詢傳染病防治醫療網網區指揮官後，於最後一次暴露後 14 天內接種。如已出現猴痘症狀，則不建議接種。

三、包裝方式：每盒 20 劑。

四、儲放條件：應於-20±5℃冷儲，解凍後於 2-8℃環境僅能保存 12 小時且不能再凍結儲存，為保障本疫苗接種效益與安全及降低疫苗耗損，應以集中接種方式規劃接種人數及疫苗瓶數。

伍、接種作業：

一、前置作業：

(一) 為達最大效益，以同一時間集中接種為原則，由衛生局確認名單後向疾管署申請疫苗，經疾管署審核同意後撥配疫苗（申請流程及申請單如附件 3、4)。

(二) 通知與聯繫：衛生局確認疫苗配達時間後，聯繫使用對象。

1. 暴露前預防(PrEP)：由疾管署提供名單予實驗室所在地衛生局。
2. 暴露後預防(PEP)：依疫調匡列結果，由居住地衛生局負責。

(三) 冷凍疫苗需經 10 分鐘解凍至室溫溫度方可使用，使用前請輕搖瓶身至少 30 秒，以無菌針具（1CC 空針 23-25 號針頭）抽取 0.5 mL 之疫苗進行皮下注射。

二、 接種流程（如附件 5)：

(一) 由衛生局通知符合接種對象人員，並將疫苗以 2-8℃運至指定地點

進行接種。

(二) 接種者應攜帶身分證件及健保卡、外籍人士攜帶居留證，接種前應詳閱猴痘疫苗接種須知並填寫猴痘疫苗接種同意書(附件 6)，並經醫師評估後接種。

(三) 接種後，接種單位應儘速將接種資料上傳至「全國性預防接種資訊管理系統(NIIS)」或交付所在地衛生局完成資料(紙本或制式可匯入檔案)傳送，俾利衛生局掌握個案接種情形並進行後續施打劑次之追蹤。「全國性預防接種資訊管理系統(NIIS)」相關欄位尚未完成建置前，或其它特殊情形，則由衛生局依附件 7 格式填報並回報疾管署。

(四) 倘當日不適合接種疫苗，由醫師評估是否另約時間接種，已解凍之疫苗則報廢。

三、嚴重疫苗不良事件：接種後，若發現有接種後嚴重不良事件之個案發生時，依嚴重疫苗不良事件通報與因應流程(如附件 8)，至「疫苗不良事件通報系統（VAERS）」（http://vaers.cdc.gov.tw）通報，並由縣市衛生局(所)進行後續追蹤關懷作業。

陸、疫苗供應與管理

一、 囿於疫苗包裝規格，合約廠商疫苗配送以盒為單位，衛生局收到後應立即以-20±5℃冷儲，如疾管署核撥超過申請數量之疫苗將暫存於申請之衛生局供後續鄰近縣市有需求時調度。

二、 疫苗接種當日由衛生局以 2-8℃包裝箱(含溫度監視卡等可供判讀之溫度監視設備)運送至接種地點。

三、 疫苗於 2-8℃環境僅能保存 12 小時且不能再凍結儲存，若接種對象未依預約時間或當日經評估無法接種，致疫苗解凍超過 12 小時仍未使用則需丟棄，接種單位應立即陳報疾管署，為確保疫苗效益，請衛生局確實掌握接種對象，避免前述情形發生。

四、 毀損疫苗處理：執行接種單位，如遇疫苗未開封前，即發現有損毀或內容物不足等無法使用情形，應儘速通知轄區衛生局，並通報疾管署。如非因前述原因所致疫苗短少或毀損，則由衛生局依照「公費疫苗毀損賠償等級」研判處置(如附件 9)。

附件 1.

猴痘疫情調查及接觸者追蹤指引

一、 疫情調查

(一) 完成時限

疑似個案經通報至「傳染病通報系統」且判定為確定病例時，由個案居住地所在之縣市政府衛生局依「猴痘疫調單」於個案確診後 24 小時內完成疫調作業。

(二) 疫調作業

請依「猴痘疫調單」(如附件)進行疫調，完成疫調單中包括個案基本資料、臨床狀況、發病前 21 天至就醫隔離前的活動地點、旅遊史、接觸史、就醫史等資訊蒐集，疫調時應同時完成通報個案之接觸者名單建立。疫調人員應採取之感染管制防護措施請參考感染管制指引個人防護裝備建議。

(三) 接觸定義

自個案發病後至病患所有皮疹均結痂時，曾直接接觸感染者呼吸道分泌物、皮膚或黏膜，或在無適當防護下提供照護、相處、接觸病患呼吸道分泌物或體液者。

(四) 接觸者匡列處置原則

符合前述接觸定義之個案接觸對象皆應列為接觸者，並依接觸風險等級採行適當處置。接觸風險等級高者，可給予暴露後預防接種，處置原則將視疫情與疫苗供應現況更新。

接觸風險等級	情境描述	情境舉例	處置
高	無適當防護之長時間持續密切接觸，包括： ● 皮膚黏膜與確診病患皮膚黏膜接觸。 ● 皮膚黏膜與確診病患之分泌物或痂皮接觸。 ● 皮膚黏膜與被確診病患之分泌物或皮膚病灶、痂皮汙染之物品(如衣物或床單)接觸。 ● 吸入確診病患飛沫微粒(aerosol)或乾燥	● 同住家人。 ● 曾有任何形式性接觸之性伴侶。 ● 於病患執行會產生飛沫微粒(aerosol)之醫療措施時，未穿戴 N95 面罩與護目鏡/面罩，且位於同一房間或相距 2 公尺內之醫療相關人員。 ● 清掃被汙染的房間時無適當防護，可能吸入飛沫或揚塵者。 ● 實驗室操作過程中曾於無適當防護狀況下	● 針對高風險密切接觸者開立健康監測通知書，主動追蹤其健康狀況至最後一次與病例接觸後 21 天，並每日至「接觸者健康管理系統」進行回報。 ● 評估後給予暴露後預防接種。應於最後一次暴露後四天內接種。 ● 衛教接觸者若無症狀可正常工作生活，但建議避免近距離接觸免疫低下者、孕婦與孩童，以及在健康監測期間避免性行

	分泌物之揚塵。	暴露於具活性的猴痘病毒，或可能含有病毒之檢體者。	為、捐血。 ● 如於追蹤期間出現發燒或出疹，應協助其就醫。
中	不符合上述高風險接觸定義，但符合下列任一者： ● 曾提供確診病患醫療照護，且未配戴符合接觸情境之防護裝備。 ● 交通工具左右鄰座者。	● 曾與病患共處同一空間(相距 2 公尺內)，累計超過三小時，且未佩戴外科口罩以上等級防護裝備之醫療相關人員。 ● 醫療相關人員之衣物與病患皮疹、體液或受污染之床單或敷料曾有接觸，且未穿著隔離衣者。 ● 飛機左右鄰座者。	● 衛教接觸者應自我健康監測至最後一次與病例接觸後 21 天。 ● 若無症狀可正常工作生活，但建議避免近距離接觸免疫低下者、孕婦與孩童，以及在健康監測期間避免性行為、捐血。 ● 如於追蹤期間出現發燒或出疹，應協助其就醫。
低	不符合上述高、中風險情境，但符合下列任一者： ● 社區一般接觸，或戶外接觸。 ● 接觸時有持續配戴符合接觸情境之防護裝備。	● 短暫交談互動。 ● 曾與確診病患共處同一空間，但無前述高、中等級接觸者。	一般衛教。

註：

1. 遇特殊情境時,可請疾病管制署各區管制中心協助判斷匡列。
2. 須匡列之接觸者仍應視實際疫調情形作適當調整，另於特殊情況下，可依據現場疫調及風險評估結果，採取較嚴格標準，擴大接觸者匡列範圍，及採行必要之防治措施。
3. 高風險接觸者健康狀況追蹤、暴露後預防接種與中風險接觸者自我健康監測細節另參閱相關指引。
4. 若高風險接觸者為嚴重免疫不全、孕婦、孩童等易併發重症之對象，可經諮詢網區指揮官後，於最後一次暴露後 14 天內接種疫苗。

附件 2.英文仿單

HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use JYNNEOS safely and effectively. See full prescribing information for JYNNEOS.

JYNNEOS (Smallpox and Monkeypox Vaccine, Live, Non-replicating) suspension for subcutaneous injection
Initial U.S. Approval: 2019

----------INDICATIONS AND USAGE----------
JYNNEOS is a vaccine indicated for prevention of smallpox and monkeypox disease in adults 18 years of age and older determined to be at high risk for smallpox or monkeypox infection. (1)

----------DOSAGE AND ADMINISTRATION----------
For subcutaneous injection only.
Administer two doses (0.5 mL each) 4 weeks apart. (2.1, 2.2)

----------DOSAGE FORMS AND STRENGTHS----------
Suspension for injection. Each dose (0.5 mL) is supplied in a single-dose vial. (3)

----------ADVERSE REACTIONS----------
- In smallpox vaccine-naïve healthy adults, the most common (> 10%) solicited injection site reactions were pain (84.9%), redness (60.8%), swelling (51.6%), induration (45.4%), and itching (43.1%); the most common solicited systemic adverse reactions were muscle pain (42.8%), headache (34.8%), fatigue (30.4%), nausea (17.3%) and chills (10.4%). (6.1)
- In healthy adults previously vaccinated with a smallpox vaccine, the most common (> 10%) solicited injection site reactions were redness (80.9%), pain (79.5%), induration (70.4%), swelling (67.2%), and itching (32.0%); the most common solicited systemic adverse reactions were fatigue (33.5%), headache (27.6%), and muscle pain (21.5%). (6.1)
- The frequencies of solicited local and systemic adverse reactions among adults with HIV-infection and adults with atopic dermatitis were generally similar to those observed in healthy adults. (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact Bavarian Nordic at toll-free phone 1-800-675-9596 or VAERS at 1-800-822-7967 or www.vaers.hhs.gov.

See 17 for PATIENT COUNSELING INFORMATION

Revised: 06/2021

FULL PRESCRIBING INFORMATION: CONTENTS*

* Sections or subsections omitted from the full prescribing information are not listed.

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

JYNNEOS is a vaccine indicated for prevention of smallpox and monkeypox disease in adults 18 years of age and older determined to be at high risk for smallpox or monkeypox infection.

2 DOSAGE AND ADMINISTRATION

For subcutaneous injection only.

2.1 Dose and Schedule

Administer two doses (0.5 mL each) of JYNNEOS 4 weeks apart.

2.2 Preparation and Administration

Allow the vaccine to thaw and reach room temperature before use. Once thawed, the vaccine may be kept at +2°C to +8°C (+36°F to +46°F) for 12 hours. Do not refreeze.

When thawed, JYNNEOS is a milky, light yellow to pale white colored suspension.
Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit. If either of these conditions exists, the vaccine should not be administered.

Swirl the vial gently before use for at least 30 seconds. Withdraw a dose of 0.5 mL into a sterile syringe for injection.

Administer JYNNEOS by subcutaneous injection, preferably into the upper arm (deltoid).

3 DOSAGE FORMS AND STRENGTHS

JYNNEOS is a suspension for injection. Each dose (0.5 mL) is supplied in a single-dose vial.

5 WARNINGS AND PRECAUTIONS

5.1 Severe Allergic Reactions

Appropriate medical treatment must be available to manage possible anaphylactic reactions following administration of JYNNEOS.

Persons who experienced a severe allergic reaction following a previous dose of JYNNEOS or following exposure to any component of JYNNEOS may be at increased risk for severe allergic reactions after JYNNEOS. The risk for a severe allergic reaction should be weighed against the risk for disease due to smallpox or monkeypox.

5.2 Altered Immunocompetence

Immunocompromised persons, including those receiving immunosuppressive therapy, may have a diminished immune response to JYNNEOS.

5.3 Limitations of Vaccine Effectiveness

Vaccination with JYNNEOS may not protect all recipients.

6 ADVERSE REACTIONS

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a vaccine cannot be directly compared with rates in the clinical trials of another vaccine, and may not reflect the rates observed in practice. There is the possibility that broad use of JYNNEOS could reveal adverse reactions not observed in clinical trials.

The overall clinical trial program included 22 studies and a total of 7,859 individuals 18 through 80 years of age who received at least 1 dose of JYNNEOS (7,093 smallpox vaccine-naïve and 766 smallpox vaccine-experienced individuals).

Solicited Adverse Reactions

Solicited Adverse Reactions in Smallpox Vaccine-Naïve Individuals:

The safety of JYNNEOS in smallpox vaccine-naïve individuals was evaluated in Study 1 [1], a randomized, double-blind, placebo-controlled study conducted in the US in which vaccinia-naïve adults ages 18 to 40 years received either two doses of JYNNEOS (N=3003), or two injections of Tris-Buffered Saline (placebo, N=1002) four weeks apart.

In the total study population, the mean age was 28 years; 47.9% of the subjects were men; 77.4% were white/Caucasian, 17.8% black/African American, 1.9% Asian, 0.5% American Indian/Alaska Native, 0.4% Native Hawaiian/Other Pacific, 1.9% other racial groups; and 11.4% of subjects were of Hispanic/Latino ethnicity. The demographic compositions of JYNNEOS and placebo groups were similar.

In Study 1, subjects were monitored for local and systemic adverse reactions using diary cards for an 8-day period starting on the day of each vaccination. The frequencies of solicited local and systemic adverse reactions following any dose of JYNNEOS are presented in Table 1.

Table 1: Percentages of Subjects with Solicited Local Injection Site Reactions and Systemic Adverse Reactions within 8 Days of Administration of Any Dose of JYNNEOS in Adults 18 to 40 Years of Age, Study 1[x]

Reaction	JYNNEOS N=2943 %	Placebo N=980 %
Local (Injection site)	--	--
Pain	84.9	19.1
Pain, Grade 3[a]	7.4	1.0
Redness	60.8	17.7
Redness ≥ 100 mm	1.5	0.0
Swelling	51.6	5.6
Swelling ≥ 100 mm	0.8	0.0
Induration	45.4	4.6
Induration ≥ 100 mm	0.3	0.0
Itching	43.1	11.7
Itching, Grade 3[b]	1.6	0.2
Systemic	--	--
Muscle Pain	42.8	17.6
Muscle Pain, Grade 3[b]	2.6	0.7
Headache	34.8	25.6
Headache, Grade 3[b]	2.4	2.1
Fatigue	30.4	20.5
Fatigue, Grade 3[b]	3.0	1.3
Nausea	17.3	13.1
Nausea, Grade 3[b]	1.5	1.2
Chills	10.4	5.8
Chills, Grade 3[b]	1.0	0.3
Fever[c]	1.7	0.9
Fever, Grade ≥ 3[c]	0.2	0.0

[x] NCT01144637

[a] Grade 3 pain defined as spontaneously painful

[b] Grade 3 itching, muscle pain, headache, fatigue, nausea and chills defined as preventing routine daily activities

[c] Fever defined as oral temperature ≥ 100.4°F (≥ 38°C), Grade ≥ 3 fever defined as ≥ 102.2°F (≥ 39.0°C)

N=number of subjects

In Study 1, the majority of solicited local and systemic adverse reactions reported with JYNNEOS had a median duration of 1 to 6 days. In general, there were similar proportions of subjects reporting solicited local or systemic reactions of any severity after Dose 2 of JYNNEOS compared with Dose 1, with the exception of injection site pain, which was more commonly reported following Dose 1 (79.3%) than Dose 2 (69.9%).

Solicited Adverse Reactions in Persons Previously Vaccinated with a Smallpox Vaccine:

Three studies (Study 2, Study 3, and Study 4, [2-4]) conducted in the US and Germany evaluated the safety of JYNNEOS in 409 persons previously vaccinated with a smallpox vaccine who received one or two doses of JYNNEOS (mean age 39 years, range 20-80 years; 59% women; 98.8% white/Caucasian; 0.7% Asian; 0.5% black/African American). Subjects were monitored for local and systemic adverse reactions using diary cards for an 8-day period starting on the day of each

vaccination. Across all three studies, solicited local adverse reactions reported following any dose of JYNNEOS were redness (80.9%), pain (79.5%), induration (70.4%), swelling (67.2%), and itching (32.0%) at the injection site; solicited systemic adverse reactions reported following any dose of JYNNEOS were fatigue (33.5%), headache (27.6%), muscle pain (21.5%), nausea (9.8%), chills (0.7%), and fever (0.5%).

Solicited Adverse Reactions in HIV-infected Individuals:

The safety of JYNNEOS in HIV-infected individuals was evaluated in Study 5 [5], an open label trial conducted in the US that included 351 HIV-infected smallpox vaccine-naïve subjects, 131 HIV--infected subjects who previously received smallpox vaccine, 88 non-HIV-infected smallpox vaccine-naïve subjects and 9 non-HIV-infected subjects who had previously received a smallpox vaccine. The racial/ethnic and gender compositions of HIV-infected smallpox vaccine-naïve subjects and those who had previously received smallpox vaccine were similar and overall were 17.0% women; 45.8% white/Caucasian; 0.4% Asian; 33.2% black/African American; 19.0% Hispanic/Latino ethnicity; the HIV-infected smallpox vaccine-naïve group tended to be younger (mean age 37 years) compared to those who had previously received a smallpox vaccine (mean age 45 years). Subjects had CD4 counts ≥ 200 and ≤ 750 cells/μL at study entry.

Solicited local and systemic adverse reactions were reported at similar or lower frequencies in HIV-infected smallpox vaccine-naïve subjects as compared to those seen in non-HIV-infected smallpox vaccine-naive individuals in this study.

In HIV-infected subjects with previous smallpox vaccine exposure, fever and chills were reported in 1.5% and 8.4% of subjects respectively. Frequencies of other solicited local and general adverse reactions in this population were similar to those reported in Studies 2-4 in non-HIV-infected subjects who had previously received smallpox vaccination.

Solicited Adverse Reactions in Individuals with Atopic Dermatitis:

The safety of JYNNEOS in smallpox vaccine-naïve subjects with currently active or a history of atopic dermatitis (AD) was evaluated in a multicenter, open-label clinical study (Study 6 [6]) conducted in the US and Mexico that included 350 subjects with AD and 282 subjects without AD. In the overall study the mean age of subjects was 27 years (range 18-42 years), and subjects were 59.0% women, 39.4% white/Caucasian, 10.9% Asian, 9.0% black/African American, 2.2% Other, and 38.4% Hispanic/Latino ethnicity. Demographic compositions were similar between subjects with and without AD. In subjects with AD, solicited local and systemic adverse reactions were reported at similar frequencies as those in subjects without AD in this study, with the exception of redness (61.2% with AD vs. 49.3% without AD), swelling (52.2% with AD vs. 40.8% without AD), chills (15.9% with AD vs. 7.8% without AD) and headache (47.2% with AD vs. 34.8% without AD).

Serious Adverse Events

The integrated analyses of serious adverse events (SAEs) pooled safety data across 22 studies, which included a total of 7,093 smallpox vaccine-naïve subjects and 766 smallpox vaccine-experienced subjects who received at least 1 dose of JYNNEOS and 1,206 smallpox vaccine-naïve subjects who received placebo only. SAEs were monitored from the day of the first study vaccination through at least 6 months after the last study vaccination.

Among the smallpox vaccine-naïve subjects, SAEs were reported for 1.5% of JYNNEOS recipients and 1.1% of placebo recipients. Among the smallpox vaccine-experienced subjects enrolled in studies without a placebo comparator, SAEs were reported for 2.3% of JYNNEOS recipients. Across all studies, a causal relationship to JYNNEOS could not be excluded for 4 SAEs, all non-fatal, which included Crohn's disease, sarcoidosis, extraocular muscle paresis and throat tightness.

Cardiac Adverse Events of Special Interest

Evaluation of cardiac adverse events of special interest (AESIs) included any cardiac signs or symptoms, ECG changes determined to be clinically significant, or troponin-I elevated above 2 times the upper limit of normal. In the 22 studies, subjects were monitored for cardiac-related signs or symptoms through at least 6 months after the last vaccination.

The numbers of JYNNEOS and placebo recipients, respectively, with troponin-I data were: baseline level (6,376 and 1,203); level two weeks after first dose (6,279 and 1,166); level two weeks after second dose (1,683 and 193); unscheduled visit, including for clinical evaluation of suspected cardiac adverse events (500 and 60).

Cardiac AESIs were reported to occur in 1.3% (95/7,093) of JYNNEOS recipients and 0.2% (3/1,206) of placebo recipients who were smallpox vaccine-naïve. Cardiac AESIs were reported to occur in 2.1% (16/766) of JYNNEOS recipients who were smallpox vaccine-experienced. The higher proportion of JYNNEOS recipients who experienced cardiac AESIs was driven by 28 cases of asymptomatic post-vaccination elevation of troponin-I in two studies: Study 5, which enrolled 482 HIV-infected subjects and 97 healthy subjects, and Study 6, which enrolled 350 subjects with atopic dermatitis and 282 healthy subjects. An additional 127 cases of asymptomatic post-vaccination elevation of troponin-I above the upper limit of normal but not above 2 times the upper limit of normal were documented in JYNNEOS recipients throughout the clinical development program, 124 of which occurred in Study 5 and Study 6. Proportions of subjects with troponin-I elevations were similar between healthy and HIV-infected subjects in Study 5 and between healthy and atopic dermatitis subjects in Study 6. A different troponin assay was used in these two studies compared to the other studies, and these two studies had no placebo controls. The clinical significance of these asymptomatic post-vaccination elevations of troponin-I is unknown.

Among the cardiac AESIs reported, 6 cases (0.08%) were considered to be causally related to JYNNEOS vaccination and included tachycardia, electrocardiogram T wave inversion, electrocardiogram abnormal, electrocardiogram ST segment elevation, electrocardiogram T wave abnormal, and palpitations.

None of the cardiac AESIs considered causally related to study vaccination were considered serious.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

All pregnancies have a risk of birth defect, loss, or other adverse outcomes. In the US general population, the estimated background risk of major birth defects and miscarriage in clinically

recognized pregnancies is 2% to 4% and 15% to 20%, respectively. Available human data on JYNNEOS administered to pregnant women are insufficient to inform vaccine-associated risks in pregnancy.

The effect of JYNNEOS on embryo-fetal and post-natal development was evaluated in four developmental toxicity studies conducted in female rats and rabbits. In two studies, rats were administered a single human dose of JYNNEOS (0.5 mL) once prior to mating and on one or two occasions during gestation. In the third study, rats were administered a single human dose of JYNNEOS (0.5 mL) on two occasions during gestation. In the fourth study, rabbits were administered a single human dose of JYNNEOS (0.5 mL) once prior to mating and on two occasions during gestation. These animal studies revealed no evidence of harm to the fetus *[see Data]*.

Data

Animal Data
Developmental toxicity studies were conducted in female rats and rabbits. In one study, female rabbits were administered a single human dose of JYNNEOS (0.5 mL) by the subcutaneous route on three occasions: prior to mating, and on gestation days 0 and 14. Three studies were conducted in female rats administered a single human dose of JYNNEOS (0.5 mL) by the subcutaneous route on two or three occasions: prior to mating, and on gestation days 0 and 14; or prior to mating, and on gestation day 0; or on gestation days 0 and 6. No vaccine-related fetal malformations or variations and adverse effects on female fertility or pre-weaning development were reported in these studies.

8.2 Lactation

Risk Summary

It is not known whether JYNNEOS is excreted in human milk. Data are not available to assess the effects of JYNNEOS in the breastfed infant or on milk production/excretion.

The development and health benefits of breastfeeding should be considered along with the mother's clinical need for JYNNEOS and any potential adverse effects on the breastfed child from JYNNEOS or from the underlying maternal condition. For preventive vaccines, the underlying condition is susceptibility to disease prevented by the vaccine.

8.4 Pediatric Use

Safety and effectiveness of JYNNEOS have not been established in individuals less than 18 years of age.

8.5 Geriatric Use

Forty-two smallpox vaccine-experienced adults 65 to 80 years of age received at least one dose of JYNNEOS (Study 4).

Clinical studies of JYNNEOS did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects.

11 DESCRIPTION

When thawed, JYNNEOS (Smallpox and Monkeypox Vaccine, Live, Non-replicating) is a milky, light yellow to pale white colored suspension for subcutaneous injection.

JYNNEOS is a live vaccine produced from the strain Modified Vaccinia Ankara-Bavarian Nordic (MVA-BN), an attenuated, non-replicating orthopoxvirus. MVA-BN is grown in primary Chicken Embryo Fibroblast (CEF) cells suspended in a serum-free medium containing no material of direct animal origin, harvested from the CEF cells, purified and concentrated by several Tangential Flow Filtration (TFF) steps including benzonase digestion. Each 0.5 mL dose is formulated to contain 0.5×10^8 to 3.95×10^8 infectious units of MVA-BN live virus in 10 mM Tris (tromethamine), 140 mM sodium chloride at pH 7.7. Each 0.5 mL dose may contain residual amounts of host-cell DNA (≤ 20 mcg), protein (≤ 500 mcg), benzonase (≤ 0.0025 mcg), gentamicin (≤ 0.163 mcg) and ciprofloxacin (≤ 0.005 mcg).

JYNNEOS is a sterile vaccine formulated without preservatives. The vial stoppers are not made with natural rubber latex.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

JYNNEOS is an attenuated, live, non-replicating smallpox and monkeypox vaccine that elicits humoral and cellular immune responses to orthopoxviruses. Vaccinia neutralizing antibody responses in humans were evaluated to establish the effectiveness of JYNNEOS for prevention of smallpox and monkeypox.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

JYNNEOS has not been evaluated for carcinogenic or mutagenic potential, or for impairment of male fertility in animals. Developmental toxicity studies conducted in rats and rabbits vaccinated with JYNNEOS revealed no evidence of impaired female fertility *[see Use in Specific Populations (8.1)]*.

13.2 Animal Toxicology and/or Pharmacology

The efficacy of JYNNEOS to protect cynomolgus macaques (*Macaca fascicularis*) against a monkeypox virus (MPXV) challenge was evaluated in several studies. Animals were administered Tris-Buffered Saline (placebo) or JYNNEOS (1×10^8 $TCID_{50}$) sub-cutaneously on day 0 and day 28. On day 63, animals were challenged with MPXV delivered by aerosol (3×10^5 pfu), intravenous (5×10^7 pfu) or intratracheal (5×10^6 pfu) route. Across all studies, 80-100% of JYNNEOS-vaccinated animals survived compared to 0-40% of control animals.

14 CLINICAL STUDIES

14.1 Vaccine Effectiveness

Vaccine effectiveness against smallpox was inferred by comparing the immunogenicity of JYNNEOS to a licensed smallpox vaccine (ACAM2000) based on a Plaque Reduction Neutralization Test (PRNT) using the Western Reserve strain of vaccinia virus and was supported by efficacy data from animal challenge studies. *[see Nonclinical Toxicology (13.2)]*

Vaccine effectiveness against monkeypox was inferred from the immunogenicity of JYNNEOS in a clinical study and from efficacy data from animal challenge studies. *[see Nonclinical Toxicology (13.2)]*

14.2 Immunogenicity

Study 7 [7] (N=433) was a randomized, open-label study conducted at US military facilities in South Korea to compare the immunogenicity of JYNNEOS to ACAM2000 in healthy smallpox vaccine-naïve adults 18 through 42 years of age. Subjects were randomized to receive either two doses of JYNNEOS (N=220) administered 28 days apart or one dose of ACAM2000 (N=213). In the total study population, the mean age was 24 years and 23 years in subjects receiving JYNNEOS and ACAM2000, respectively; 82.3% and 86.4% of the subjects were men; 57.3% and 63.8% were white/Caucasian, 21.8% and 18.8% black/African American, 6.4% and 5.6% Asian, 3.6% and 2.8% American Indian/Alaska Native, 2.3% and 1.4% Native Hawaiian/Other Pacific, 8.6% and 7.5% other racial groups, and 24.5% and 18.8% of Hispanic/Latino ethnicity (JYNNEOS and ACAM2000, respectively).

The primary immunogenicity endpoint was geometric mean titer (GMT) of vaccinia neutralizing antibodies assessed by PRNT at “peak visits” defined as two weeks after the second dose of JYNNEOS and four weeks after the single dose of ACAM2000. Analyses of antibody responses were performed in the per-protocol immunogenicity (PPI) population, consisting of individuals who received all vaccinations and completed all visits up until the peak visit without major protocol violations pertaining to immunogenicity assessments. Table 2 presents the pre-vaccination and “peak visit” PRNT GMTs from Study 7.

Table 2: Comparison of Vaccinia-Neutralizing Antibody Responses Following Vaccination with JYNNEOS or ACAM2000 in Healthy Smallpox Vaccine-Naïve Adults 18 through 42 Years of Age, Study 7[x], Per Protocol Set for Immunogenicity[y]

Time Point	JYNNEOS[a] (N=185) GMT[b] [95% CI]	ACAM2000[a] (N=186) GMT[b] [95% CI]
Pre-Vaccination	10.1 [9.9, 10.2]	10.0 [10.0, 10.0]
Post-Vaccination "Peak Visit"[y]	152.8[c] [133.3, 175.0]	84.4[c] [73.4, 97.0]

[x] NCT01913353

[y] Per Protocol Set for Immunogenicity included subjects who received all vaccinations, completed all visits up until the specified "peak visits" (two weeks after the second dose of JYNNEOS or 4 weeks after the single dose of ACAM2000) without major protocol violations pertaining to immunogenicity assessments.

[a] JYNNEOS was administered as a series of two doses given 28 days apart, and ACAM2000 was administered as a single dose.

[b] GMT of vaccinia-neutralizing antibody titers assessed by plaque reduction neutralization test (PRNT) using the Western Reserve vaccinia strain. Values below the assay lower limit of quantitation (LLOQ) of 20 were imputed to a titer of 10; the proportions of subjects with pre-vaccination titers less than the assay lower limit of detection were 98.9% among subjects randomized to JYNNEOS and 97.8% among subjects randomized to ACAM2000, respectively.

[c] Non-inferiority of the "peak visit" PRNT GMT for JYNNEOS compared to ACAM2000 was demonstrated as the lower bound of the 1-sided 97.5% CI for the GMT ratio (JYNNEOS/ACAM2000) was > 0.5.

N: Number of subjects in the specified treatment group; GMT: Geometric Mean Titer; 95% CI: 95% confidence interval, lower limit and upper limit.

PRNT GMTs were also evaluated at pre-specified time points post-vaccination and prior to the "peak visits". The PRNT GMTs at two and four weeks after the first dose of JYNNEOS (prior to the second dose), were 23.4 (95% CI: 20.5, 26.7) and 23.5 (95% CI: 20.6, 26.9), respectively. The PRNT GMT at two weeks after the single dose of ACAM2000 was 23.7 (95% CI: 20.9, 26.8).

15 REFERENCES

1. Study 1: NCT01144637
2. Study 2: NCT00316524
3. Study 3: NCT00686582
4. Study 4: NCT00857493
5. Study 5: NCT00316589
6. Study 6: NCT00316602
7. Study 7: NCT01913353

16 HOW SUPPLIED/STORAGE AND HANDLING

16.1 How Supplied

Package of 20 single-dose vials (Package NDC number: 50632-001-02; Vial NDC number: 50632-001-01)

16.2 Storage Conditions

Keep frozen at -25°C to -15°C (-13°F to +5°F).
Store in the original package to protect from light.
Do not re-freeze a vial once it has been thawed.
Once thawed, the vaccine may be kept at +2°C to +8°C (+36°F to +46°F) for 12 hours.
Do not use the vaccine after the expiration date shown on the vial label.

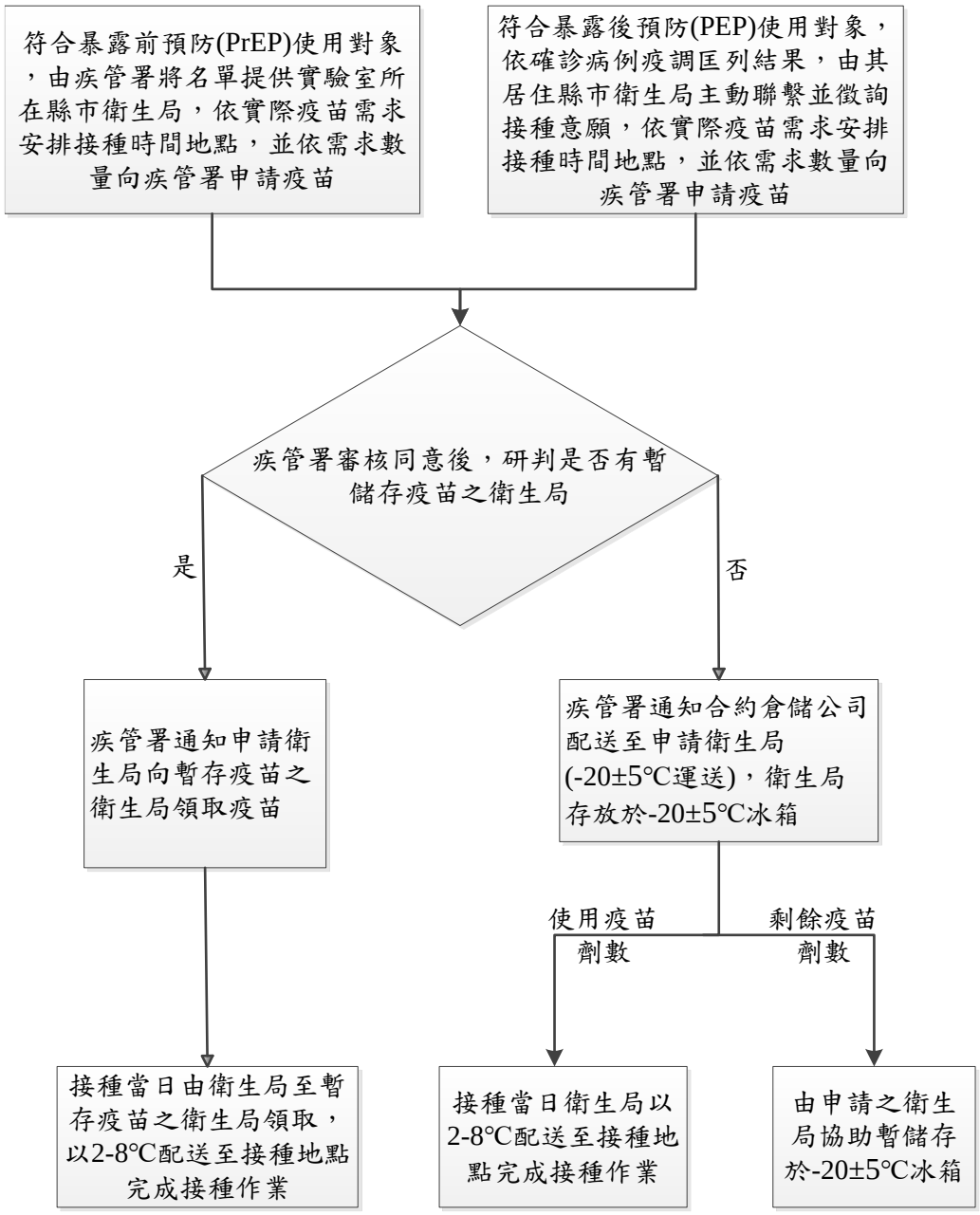
17 PATIENT COUNSELING INFORMATION

- Inform vaccine recipient of the potential benefits and risks of vaccination with JYNNEOS.
- Inform vaccine recipient of the importance of completing the two dose vaccination series.
- Advise vaccine recipient to report any adverse events to their healthcare provider or to the Vaccine Adverse Event Reporting System at 1-800-822-7967 and www.vaers.hhs.gov.

Manufactured by:
Bavarian Nordic A/S
Hejreskovvej 10a
DK-3490 Kvistgaard
Denmark

附件 3.

猴痘疫苗申請流程圖



註:猴痘疫苗離開-20±5℃儲存環境後，於2-8℃之冷藏條件須於12小時內使用完畢

附件 4.

猴痘疫苗申請單

基　　本　　資　　料			
申請日期	_____年_____月_____日		
申請單位	衛生局	承辦人：	
聯絡電話		傳真：	
送貨地址			

接種人數 （名單如附件）	申請疫苗數量 （1 劑/0.5mL）	核撥數量	核撥批號	撥配方式
_____人	_____劑	_____劑		□合約倉儲公司配送 □申請衛生局至同一區管中心轄管暫儲存疫苗之_____衛生局領取

申請人	申請單位主管

核發單位承辦人	核發單位主管

備註：

1. 基本資料請以正楷確實填寫清楚，以免疫苗無法正確送達。
2. 核撥數量、核撥批號及撥配方式三欄由疾管署填寫。
3. 衛生局可以 Email 或傳真方式(chen525@cdc.gov.tw；Fax:02-23959830)申請疫苗，並電話通知疾管署陳小姐(Tel: 02-23959825#3136)。
4. 本申請單經疾管署同意後，提供申請衛生局留存。
5. 若核發之撥配方式為申請衛生局至同一區管中心轄管暫儲存疫苗之衛生局領取，經疾管署同意後，本申請單一併提供暫儲存疫苗之衛生局留存。

附件 4-1. 猴痘疫苗申請單-附件名單

姓名	出生日期	身分證號	符合接種對象類別	預定接種時間
			□暴露前預防(PrEP) _____________實驗室 □暴露後預防(PEP) 傳染病通報單編號：______________之高風險密切接觸者 □其他特殊狀況經疾管署同意者 _________________________（檢附網區指揮官審核文件）	□第一劑：___年___月___日___時 □第二劑：___年___月___日___時
			□暴露前預防(PrEP) _____________實驗室 □暴露後預防(PEP) 傳染病通報單編號：______________之高風險密切接觸者 □其他特殊狀況經疾管署同意者 _________________________（檢附網區指揮官審核文件）	□第一劑：___年___月___日___時 □第二劑：___年___月___日___時
			□暴露前預防(PrEP) _____________實驗室 □暴露後預防(PEP) 傳染病通報單編號：______________之高風險密切接觸者 □其他特殊狀況經疾管署同意者 _________________________（檢附網區指揮官審核文件）	□第一劑：___年___月___日___時 □第二劑：___年___月___日___時

附件 4-2. 猴痘疫苗申請單-附件網區指揮官審核文件

其他特殊狀況之猴痘疫苗申請單

申請日期： 年 月 日

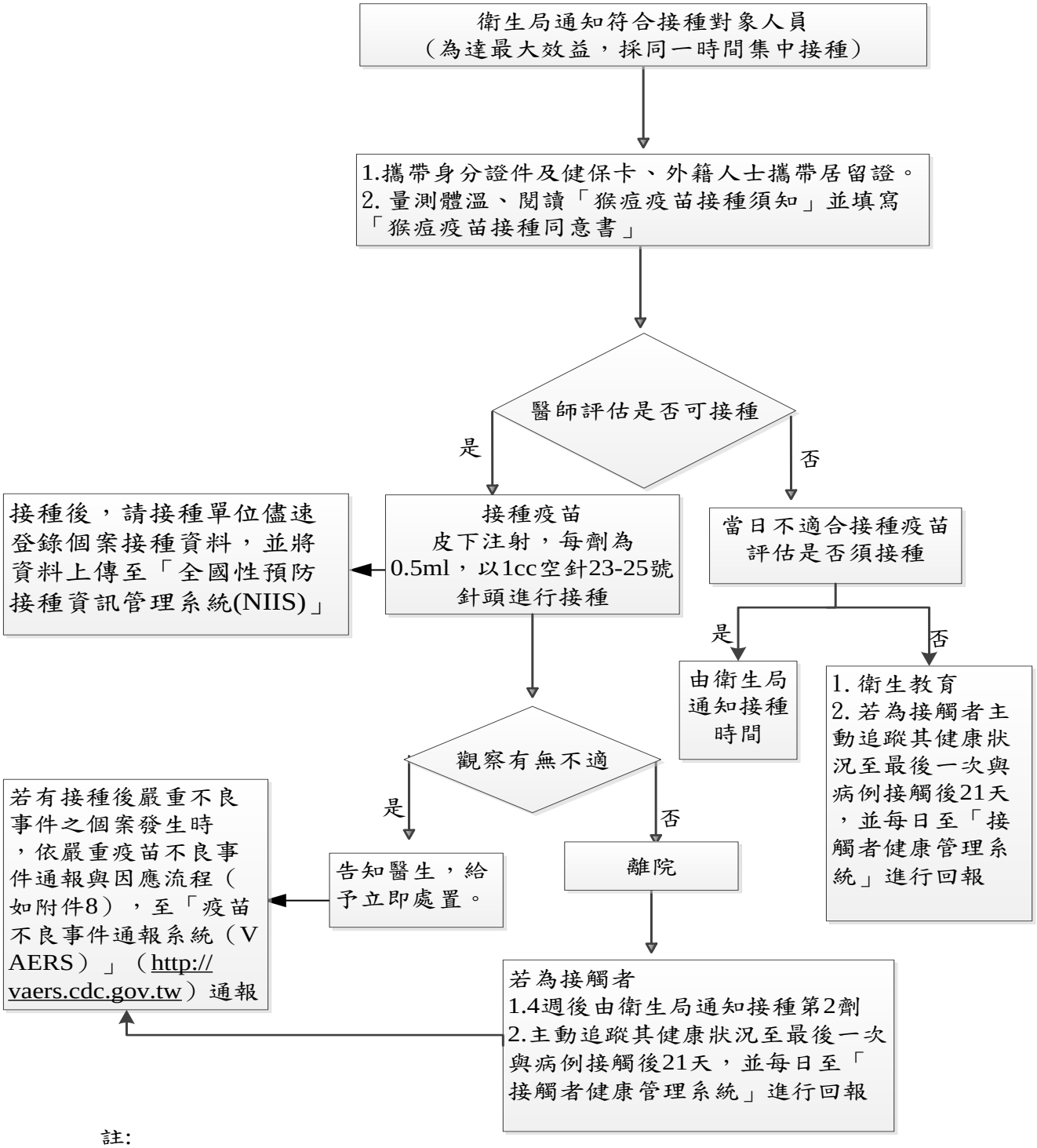
基 本 資 料			
姓名			
出生日期	____年____月____日	身分證號	
性別		聯絡電話/手機	
申請原因說明	(非目前使用方案定義之暴露前預防(PrEP)及暴露後預防(PEP)對象)		
申請單位	衛生局		
申請人			
申請單位主管			
網區指揮官審核結果	□同意 □不同意 說明：_____		
網區指揮官簽名			

備註：

本申請單由衛生局提出申請，填寫猴痘疫苗施打者之基本資料、申請原因後以 Email 或傳真方式予轄管的區管中心並電話通知區管中心；區管中心將本申請單送網區指揮官審核。

附件 5.

猴痘疫苗接種流程



註:

1.猴痘疫苗為每盒20劑之單劑型包裝，於-20±5℃冷儲。

冷凍疫苗需經10分鐘解凍至室溫溫度才可使用，使用前請輕柔搖晃瓶身至少30秒。

2.離開-20±5℃儲存環境後，於2-8℃之冷藏條件須於12小時內使用完畢。

附件 6. 接種須知與同意書

猴痘疫苗 JYNNEOS®接種須知

一、疫苗廠牌、成分及特性

疾病管制署所儲備之猴痘疫苗係由丹麥 Bavarian Nordic A/S 公司所產製之減毒活性非複製型疫苗(live-attenuated, non-replicating)為第一個獲准用於預防猴痘的疫苗，本疫苗已取得美國、加拿大、歐盟之上市許可，並獲得衛生福利部食品藥物管理署專案核准進口，適用於 18 歲以上成人。

- 主要成分：

  每劑疫苗(0.5mL)含有 0.5 x 10^8 IU 至 3.95x 10^8 IU 非複製型經修飾之牛痘病毒(non-replicating, live Modified Vaccinia Virus Ankara - Bavarian Nordic, MVA-BN®)

- 其它成分：

  Host-cell DNA、protein、benzonase、gentamicin、ciprofloxacin。

二、接種劑量及間隔

每人接種 2 劑，每劑 0.5mL，皮下注射(最好在上臂三角肌)，2 劑間隔 4 週。

三、副作用

在未曾接種第一代天花疫苗族群，副作用如下：

- 注射部位反應: 疼痛(84.9%)、發紅(60.8%)、腫脹(51.6%)、硬塊(45.4%)和瘙癢(43.1%)等。
- 全身性反應：肌肉疼痛(42.8%)、頭痛(34.8%)、疲倦(30.4%)、噁心(17.3%)、發冷(10.4%)等。

五、禁忌或使用注意事項

1. 對疫苗成分過敏者。
2. 須注意注射後可能發生之過敏性休克。
3. 免疫低下或接受免疫抑制劑治療者，對疫苗免疫反應可能較差。
4. 暴露後預防接種原則應於最後一次暴露後四天內，最遲於十四天內接種。
5. 建議與麻疹、德國麻疹、腮腺炎、水痘、帶狀疱疹等活性減毒疫苗可同時接種或間隔四週以上，惟倘有暴露後接種之急迫性，得以控制猴痘疫情為優先考量。

七、接種程序注意事項：

接種第 1 劑後 4 週進行第 2 劑疫苗之接種。

八、接種後注意事項

1. 為預防並即時處理接種後發生率極低的立即型嚴重過敏反應，接種後應於接種單位或附近稍做休息，並觀察至少 30 分鐘，無恙後再離開。
2. 接種後如有持續發燒、嚴重過敏反應如呼吸困難、氣喘、眩昏、心跳加速等不適症狀，應儘速就醫，並告知醫師曾接種本疫苗，並以電話通報當地衛生局。

流水編號:

「猴痘疫苗 JYNNEOS®」接種同意書

1. 接種者基本資料：

(1)姓名：_____； (2)性別：□男、□女

(3)身分證/居留證/護照號碼：_____

(4)生日：民國___年___月___日；(5)聯絡電話：(___)_____；

(6)居住地址：_____ 縣(市) _____鄉鎮市區_____

(7)是否曾接種天花或猴痘疫苗? □否；□是(續填以下欄位)

疫苗名稱_____，接種日期_____

疫苗名稱_____，接種日期_____

2. 請接種者詳閱猴痘疫苗接種須知，並確認與勾選：

評估內容	否	是	不清楚
1. 目前是否有猴痘疑似症狀?			
2. 過去注射疫苗或藥物是否有嚴重過敏反應史?			
3. 是否對蛋或疫苗的其他成分過敏?			
4. 是否接受會造成免疫系統功能低下之治療?			
5. 目前是否懷孕或哺乳?			
6. 體溫：_____℃			

我已瞭解此項疫苗之保護效果、副作用、禁忌、接種程序及接種後注意事項，並決定：

□同意接種；第_____劑

□不同意接種

接種者簽名：_____日期：_____年_____月_____日

※ 填寫完成後，請交給醫師進行接種評估診察

※ 醫師評估方框，請由醫師填寫：

疫苗	劑量	疫苗批號	可否接種		接種日期	醫師簽章	其他批註
猴痘疫苗 JYNNEOS®	0.5ml/皮下注射(上臂三角肌)		可	否	__年__月__日		

接種醫療機構：_____

機構十碼章代碼：_____

本資料填寫完成後，請送回轄區衛生局備查

附件 7

猴痘疫苗接種完成人數回報表

今日共完成______人次接種

接種時間：_____年_____月_____日

回報單位：________縣/市

姓名	出生日期	身分證號	性別	聯絡電話/手機	符合接種對象類別	劑次	說明
					□暴露前預防(PrEP) □暴露後預防(PEP) □其他特殊狀況經疾管署同意	□第一劑 □第二劑	□傳染病通報單編號：________ ______之高風險密切接觸者
					□暴露前預防(PrEP) □暴露後預防(PEP) □其他特殊狀況經疾管署同意	□第一劑 □第二劑	□傳染病通報單編號：________ ______之高風險密切接觸者
					□暴露前預防(PrEP) □暴露後預防(PEP) □其他特殊狀況經疾管署同意	□第一劑 □第二劑	□傳染病通報單編號：________ ______之高風險密切接觸者
					□暴露前預防(PrEP) □暴露後預防(PEP) □其他特殊狀況經疾管署同意	□第一劑 □第二劑	□傳染病通報單編號：________ ______之高風險密切接觸者

疫苗領取劑量	疫苗耗用量(劑)	疫苗結存量(劑)	說明
			_____劑為接種對象未依預約時間進行接種導致本疫苗解凍超過 12 小時仍未使用。

備註：

1.請各地方衛生局於接種隔日下午 3 時前 Email 回報予轄區疾病管制署區管中心，並請區管中心彙整完成後，於接種隔日於下午 5 時前 Email 回報予疾病管制署整備組。

2.本疫苗為單劑型包裝，於 2-8℃環境僅能保存 12 小時且不能再凍結儲存，若接種對象未依預約時間進行接種導致本疫苗解凍超過 12 小時仍未使用，請於耗用結存量表格加註說明。

附件 8

嚴重疫苗不良事件通報與因應流程

一、目的

監測因接種疫苗引起疫苗不良事件個案，藉由相關調查，早期偵測疫苗危害，並及時因應。

二、嚴重疫苗不良事件定義

（一）死亡：只有在懷疑或無法排除通報個案的死亡與接種疫苗的關聯具合理可能性時。

（二）危及生命：指在疫苗不良事件發生時，病人處於極大的死亡風險之狀況。

（三）造成永久性殘疾：疫苗不良事件導致具臨床意義之持續性或永久性的身體功能、結構、日常活動或生活品質的改變、障礙、傷害或破壞。

（四）胎嬰兒先天性畸形：懷疑因懷孕期間與接種疫苗有關之先天性畸形。

（五）導致病人住院或延長病人住院時間：指當疫苗不良事件導致病人住院或延長住院時間。

（六）其他嚴重不良事件（具重要臨床意義之事件）：指當疫苗不良事件並不造成前述之後果，但可能會對於病人的安全造成危害並且需要額外的治療來預防發展至前述結果之疾病狀況時。例如：過敏性的氣管痙攣需要急診室的處理解除症狀；癲癇發作但不需要住院處理；顏面神經麻痺但不需要住院處理等。

三、通報流程

（一）各接種單位於執行接種工作時，若發現有接種後嚴重疫苗不良事件之個案發生時，醫療院所或衛生局（所）至疫苗不良事件通報系統（VAERS）（http://vaers.cdc.gov.tw）通報。

（二）疾病管制署各區管制中心於接獲民眾 1922 通報疫苗不良事件時，由各區管中心防疫醫師評估是否通報 VAERS。

（三）通報單位應詳查個案病情狀況等相關資料，並於 VAERS 上傳相關調查結果，並提供個案必要之協助。

（四）衛生局（所）應督導轄區醫療院所確實填報 VAERS 中通報欄位之相關資料，俾後續追蹤關懷或申請預防接種受害救濟時具充足之資訊。

四、追蹤關懷流程

（一）辦理本計畫之接種單位

1. 配合進行個案病情狀況等相關調查。
2. 提供個案必要之醫療協助。

（二）衛生局(所)

1. 於接獲通報不良事件時，應立即進行追蹤關懷作業，並儘速於 VAERS 追蹤關懷欄位填報個案追蹤關懷狀況及上傳更新資料；且每日至少應追蹤關懷一次，追蹤

其預後狀況至結案為止。

2. 如疑似因預防接種而受害之請求權人提出救濟申請時，應依「預防接種受害救濟基金徵收及審議辦法」及其處理流程辦理。

（三）疾病管制署區管中心

1. 督導轄區各衛生局於 VAERS 執行個案追蹤關懷作業，必要時協助衛生局處理個案相關事宜。

2. 倘接獲其他嚴重不良以上等級個案之通報時，應主動協助轄區衛生局執行追蹤關懷及相關調查作業。

（四）疾病管制署整備組

每日監測嚴重疫苗不良事件個案，彙整相關資料研判及研擬因應策略，每日自動交換資料予財團法人藥害救濟基金會全國藥物不良反應通報中心進行流感疫苗安全訊號偵測，必要時發布新聞稿釐清與說明或緊急召開專家會議，避免民眾恐慌影響接種意願。

附件 9.

公費疫苗毀損賠償等級

102 年 3 月 1 日修訂

賠償等級	疫苗毀損原因
無需賠償	1. 因災害等所致之不可抗力因素，致疫苗毀損者：依災害疫苗冷儲應變處理作業流程，經衛生局（所）研判處理，專案通報疾病管制局。 2. 疫苗針劑包裝透明膠膜未拆封前、瓶裝未開瓶前或於注射前發現有損壞、內容物不足……等無法使用情形者，應儘速通知衛生局（所），並將疫苗實體繳回，經衛生局（所）確認屬實。 3. 於注射過程因反抽回血、注射筒異常、疫苗滲漏、掉落、推柄脫落或抽取疫苗排氣時將疫苗排出等非人為疏失且無法避免之情形，致疫苗損毀者，由院所出具報告，檢附實體，經衛生局（所）研判確立。 4. 於注射過程，因被接種者扭動等致疫苗破損、汙染或藥液流失者：由院所出具報告並經個案或家屬確認，載明事件發生情形，檢附實體，經衛生局（所）研判確立。 5. 因冷運、冷藏異常（如冷凍監視片破裂、溫度監視片指數超出規範、高低溫度計顯示低溫曾達 0℃以下等情況者）或其他事故造成疫苗毀損，但合約院所自行發現即主動通報，並檢具報告，經衛生局（所）審核通過者。
按原價賠償	1. 合約院所於 6 個月內，發生無需賠償等級事項第 3、4 款合計三次(含)以上者。 2. 因冷運、冷藏異常（如冷凍監視片破裂、溫度監視片指數超出規範、高低溫度計顯示低溫曾達 0℃以下等情況）或其他事故造成疫苗毀損，經衛生單位查核發現，配合有效改善者。 3. 將公費疫苗施打於非計畫實施對象之情事，經衛生局（所）研判確立屬個案可歸責於院所之事實者。 4. 經查核疫苗發生遺失或短缺情事，經衛生局（所）研判確立不可歸責於院所之事實者。
按原價 3 倍賠償	下列事項按疫苗原價賠償外，加計疫苗原價 2 倍違約金，並得終止合約： 1. 曾因冷運、冷藏異常或其他事故致疫苗毀損，經衛生單位查核發現，通知改善而未改善者。 2. 經查核疫苗發生遺失或短缺情事，經衛生局（所）查核發現並有明確證據可歸責於院所之事實者。
按原價 5 倍賠償	將公費疫苗蓄意施打於非計畫實施對象(單一事件)，經衛生局（所）研判確立者，按疫苗原價賠償外，加計疫苗原價 4 倍違約金，並得終止合約。
按原價 10 倍賠償	下列事項按疫苗原價賠償外，加計疫苗原價 9 倍違約金，並得終止合約： 1. 蓄意違反善良管理人之保管義務，經查核疫苗發生遺失或短缺等情事。 2. 蓄意將公費疫苗施打於非計畫實施對象（非單一事件）之情事或挪做自費疫苗使用，並有明確證據者。

備註：1. 本表所稱疫苗含 B 型肝炎免疫球蛋白。

2. 本表未列載事項，由各衛生局依實際發生情形及比照上述情節輕重研判，據以核定 賠償等級。

3. 無需賠償等級：疫苗因災害或其他因素等所致損毀，經各衛生局依本「公費疫苗毀損賠償等級」審核判定無管理、人為疏失，列為無需賠償者，依「審計法」第 58 條，須由地方衛生局逐案檢同有關文件送疾病管制署轉報審計部審核，經該部同意後始能無需賠償；至疫苗報廢則依「各機關財物報廢分級核定金額表」規定辦理。

4. 按原價賠償等級第 1 條所列，無需賠償等級事項第 3、4 款件數核計方式：(1) 預防接種及冷儲單位（預注門診、藥局等）以各單位之毀損件數分別合計。(2) 學幼童集中接種作業之毀損件數依不同地點、原因分別合計。