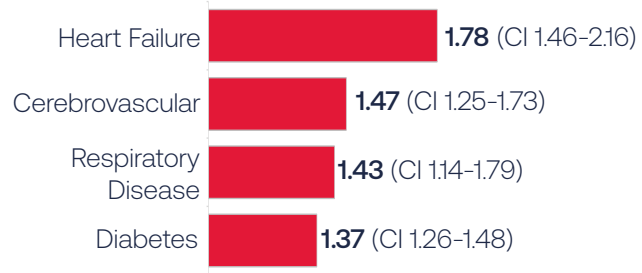
mRNA-1283 COVID-19 Vaccine at a Glance

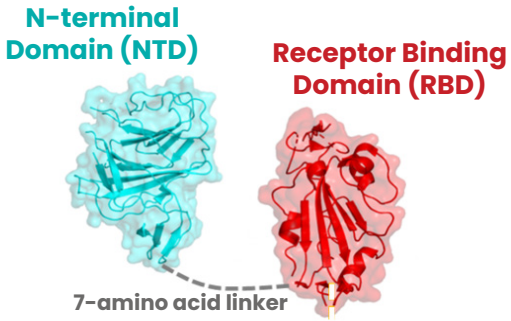
This material is provided for scientific exchange and medical education purposes only. It is not promotional, does not provide treatment recommendations, and does not replace the independent medical judgment of healthcare professionals.

Burden of Disease

- Risk of **severe COVID-19** increases with age: **~2×, ~5×,** and **~15× higher** in patients aged **45–59, 60–74,** and **≥75 years**, respectively, vs ≤44 years[1]
- COVID-19 **mortality risk remains elevated** in patients with **comorbidities**[2]
  - Pooled risk ratio vs individuals without the respective comorbidity (68-study meta-analysis, Omicron era)



Design Innovation



- **NTD and RBD are immunodominat regions** of the SARS-CoV-2 spike that **drive most protective antibody response**[3,4]
- **Designed with a shorter mRNA sequence and evaluated at a lower dose in clinical studies**[4,5]
  - 10 µg mRNA-1283 vs 50 µg mRNA-1273 (full-length spike protein)

Clinical Study Highlights

Study Design[5,6]

- Randomized, observer-blind, active-controlled Phase 3 non-inferiority trial
- 11,454 participants aged ≥12 years across the US, UK, and Canada
- Compared mRNA-1283.222 (10 µg) and mRNA-1273.222 (50 µg). Both vaccines were bivalent (Original & Omicron BA.4/BA.5)

Safety[5,6]

Median 8.8 months of follow-up

- No imbalances in any adverse events between the vaccine groups
- In mRNA-1283 recipients ≥65 years, common adverse reactions were: pain at injection site (54.6%), fatigue (43.0%), headache (33.1%), myalgia (30.5%), arthralgia (25.7%), chills (16.5%), nausea/vomiting (11.4%), and axillary swelling or tenderness (10.7%). Most were mild to moderate, began 1-2 days post-injection, and resolved within a median of 3 days
- Postmarketing data have demonstrated increased risks of myocarditis and pericarditis following mRNA COVID-19 vaccination, with symptoms typically occurring within the first week. The observed risk has been highest in males aged 12–24 years

Immunogenicity[5]

- Met prespecified non-inferiority criteria 28 days post-dose (GMR 1.3; 95% CI 1.2, 1.5; mRNA-1283 n=621; mRNA-1273 n=568). Higher antibody titres were observed vs mRNA-1273 study
- Highest immune response in ≥65 years (GMR 1.8; 95% CI: 1.4, 2.2; mRNA-1283 n=152; mRNA-1273 n=159)*

Relative vaccine efficacy (rVE)[5,6]

- Prespecified rVE non-inferiority success criterion in participants aged ≥12 years was met†:
  - **9.3%** mRNA-1283 vs mRNA-1273 (99.4% CI -6.6 to 22.8, p=0.0005)
- Subgroup rVE estimates for advancing age and comorbidity*:

≥65 years	≥50 years	≥1 comorbidity	≥1 comorbidity + ≥65 years
13.5% (95% CI: -7.7, 30.6)	**15.0%** (95% CI: 1.6, 26.6)	**15.7%** (95% CI: 0, 29.0)	**28.1%** (95% CI: 4.4, 45.9)

CI, confidence interval; **GMR,** Geometric Mean Ratio.
*Analyses were descriptive and not powered for formal statistical comparisons.[5]
†Given that the lower bound of the rVE CI was greater than -10%. It was not powered for a superiority analysis of rVE (mRNA-1283 vs mRNA-1273).[5]

References
1. Wang A, et al. *Medicine.* 2025;104(5):e41360; **2.** Chapman A, et al. *Int J Infect Dis.* 2025;158:107958; **3.** Stewart-Jones GBE, et al. *Sci Transl Med.* 2023;15(713):eadf4100; **4.** Chalkias S, et al. *J Infect Dis.* 2025;231(4):e754-e763; **5.** Chalkias S, et al. *Lancet Infect Dis.* 2025;25(11):1230-1242 & Supplement; **6.** MNEXSPIKE. US Prescribing Information. Published November 6, 2025. Accessed June 5, 2026. https://www.fda.gov/vaccines-blood-biologics/mnexspike

© 2026 Moderna, Inc. All rights reserved.