# V-safe Technical Report 3: Aortic Dissections After COVID-19 Vaccination



*"Cecilia Victorious" by John Henry Folley*

*In Loving Memory of*

**Cecilia Louise Kottenstette**

June 1, 2012 – August 23, 2022

Federal Appeals Decision Case No. 20-2282

*Dedicated to the C-19 injured.*

**For All Saints' Day**

*Let us gladly join our hearts*
*with these heavenly blessed ones;*
*for even as the newly-fledged nightingale*
*learns to sing from the elder birds,*
*so by our sacred communing with the Saints*
*we shall learn better to pray*
*and sing the praises of the Lord.*

— St. Francis de Sales

*Introduction to the Devout Life, Part II, Ch. XVI*

*"Cecilia Victorious" by John Henry Folley, https://www.johnfolley.com/*

In memory of Cecilia and dedicated to the C-19 injured.

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**Addenda and earlier reports**

- Addendum A: All 62 V-safe aortic dissection case reports, ranked.
- Addendum B: Set-aside and sensitivity cases.
- Addendum C: Methods, scoring rubric, and the person-year and correction-factor derivations.
- Addendum D: Death reports, including the full died-suddenly search (Section 4.5).
- Technical Report 1 (TR1): https://x.com/NickKottenstet1/status/2109280153373217216
- Technical Report 2 (TR2): https://x.com/NickKottenstet1/status/2109763686856331766

## In plain English

1. **What V-safe was.** V-safe was the Centers for Disease Control and Prevention (CDC) phone check-in for about 10.1 million vaccinated people, with about 5.51 million person-years of follow-up in its first year. People could type in what happened to them.
2. **What a dissection is.** In an aortic dissection, the inner lining of the aorta, the body's main artery, tears and blood splits the wall. Untreated, the worst kind kills quickly.
3. **What I found.** I found 62 aortic dissections in V-safe: 60 in the free text and 2 by CDC code alone. Only 2 of the 62 reached the Vaccine Adverse Event Reporting System (VAERS). My challenge to you: find those 2, using only what the people wrote.
4. **The underreporting factor.** V-safe caught only a fraction of what happened. My earlier reports showed an underreporting factor (URF) of 16, so 62 reports stand for 992 dissections.
5. **Against what is expected.** At normal background rates, V-safe should have seen 253. By age (9 of the 62 reports gave no age, so the age groups add to 848): under 65, I count 448 against 49 expected, or 9.1 times. At 65 and over, it is 400 against 204, or 2.0 times. Women 55 to 64 run 16.9 times, and men under 55 run 10.6 times.
6. **The excess.** Across all ages, the rate is 3.91 times background. That is 739 excess dissections in V-safe, and 19,744 in the United States (US).
7. **Deaths.** At published survival, the excess implies 317 deaths within 5 years in V-safe, and 8,480 in the US.
8. **Died suddenly.** Four women aged 39 to 54 died suddenly 8 to 27 days after a dose in ways that read as probable aortic dissections.

## Abstract

**Aortic dissections in V-safe rise far above background, and the excess grows steeply the younger the age band, in women and men alike.** I compared observed dissections (× underreporting factor (URF) 16) with the counts Howard 2013's age-band rates predict for V-safe

registrants (9 of the 62 have no recorded age, so these bands add to 848 of the 992):

- under 65, 448 observed against 49 expected, or 9.1 times;
- 65 and over, 400 against 204, or 2.0 times;
- women 55 to 64, 16.9 times;
- men under 55, 10.6 times;
- men aged 35 to 44, 80 implied dissections, and women under 55, 48, where Howard's population had none.

The young-age background rests on only 5 Howard cases, so I tested it three ways. For men under 55, the ratio ranges from 6.5 to 19.3 times. Against the upper confidence limits of Howard's rates, it is still 2.1 times for men under 55 and 1.9 times for women 55 to 64.

**Across all ages, the rate is 3.91 times background.** I found 62 aortic dissections in V-safe: 60 in the free text and 2 by CDC code alone. At a URF of 16, the rate is 18.01 per 100,000 person-years, against a background of 4.6 (Howard 2013). That is **739 excess aortic dissections in V-safe [19,744 in the United States (US)]**. The relative risk (RR) of 3.91 implies that **74.5% are likely vaccine injuries**. My causality score brackets that share: 37 of 62 (59.7%) score 9 or more out of 14, and 51 (82.3%) score 8 or more. Sixty-two people survived to report an aortic dissection to V-safe: 60 in their own words, and 2 identified from CDC's Medical Dictionary for Regulatory Activities (MedDRA) codes. Only two of the 62 reports reached VAERS.

**At Howard's 5-year fatality of 42.95%, the excess implies 317 deaths in V-safe [8,480 in the US]**, against 109 deaths from background. V-safe recorded none of the 62 as having died. Separately, four women aged 39 to 54 died suddenly 8 to 27 days after a dose in ways that read as probable aortic dissections (Section 4.5).

**Caveats.** I project the deaths from published survival rather than counting them. About a third of dissection deaths happen before the patient reaches hospital, and V-safe did not follow up on these people. Ages are known for 53 of the 62. As a sensitivity check, without Case 55 (the renal-level dissection) the count is 61 and the RR is 3.85 (Addendum C).

## 1. Main result

| Sex, age | Observed × 16 [expected] | Ratio [vs upper confidence limit] |
|---|---|---|
| Women <35 | 16 [0] | – |
| Women 35–44 | 16 [0] | – |
| Women 45–54 | 16 [0] | – |
| Women 55–64 | 144 [9] | **16.9** [1.9] |
| Women 65–74 | 64 [65] | 1.0 [0.3] |
| Women 75+ | 96 [41] | 2.3 [0.8] |
| Men <35 | 0 [0] | – |
| Men 35–44 | 80 [0] | – |
| Men 45–54 | 80 [15] | **5.3** [1.1] |
| Men 55–64 | 96 [26] | 3.7 [1.0] |
| Men 65–74 | 192 [73] | 2.6 [0.9] |
| Men 75+ | 48 [25] | 1.9 [0.6] |
| **All under 65** | 448 [49] | **9.1** [1.8] |
| **All 65+** | 400 [204] | 2.0 [0.6] |
| Age not recorded | 144 [–] | – |

*Expected counts use Howard's band rates scaled to the 4.6 background. "–" marks bands where Howard's population had no cases, so no ratio can be formed. Bracketed ratios use the upper 95% confidence limits of Howard's band rates where Howard gives one. Ratios are computed before rounding.*

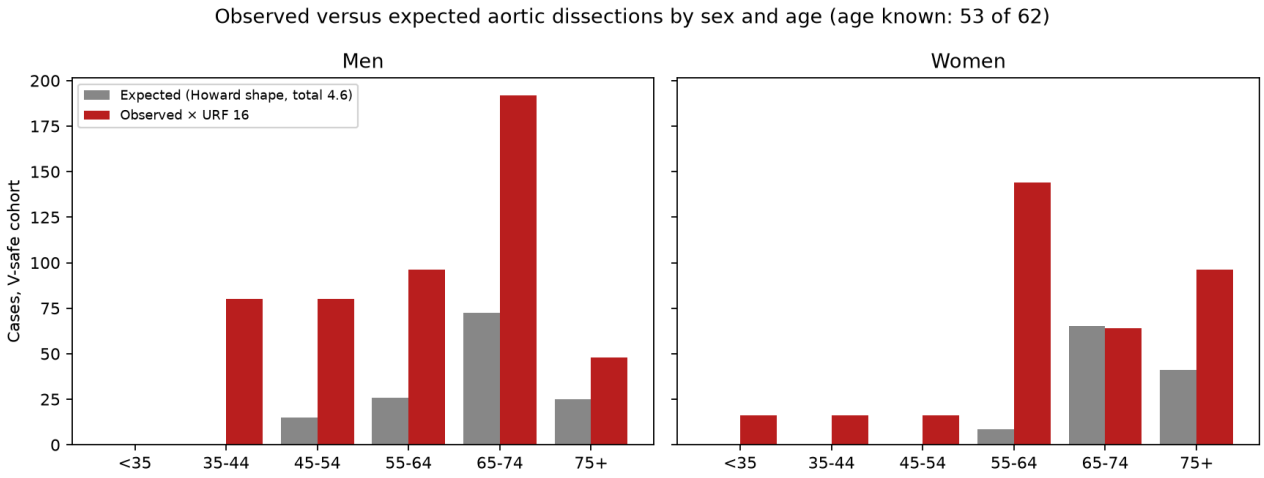



*Figure 1. Observed (× URF 16) against expected aortic dissections by sex and age band, for the 53 cases with a recorded age.*

| Measure | V-safe [US] |
|---|---|
| Aortic dissections found | **62** |
| Implied at URF 16 | **992** [26,519] |
| Expected (4.6 × 55.09) | **253** [6,775] |
| Excess | **739** [19,744] |
| Rate per 100,000 person-years | **18.01** [background 4.6] |
| RR | **3.91** |
| Likely-injured share | **74.5%** |
| 5-year deaths, excess | **317** [8,480] |
| 5-year deaths, background | **109** [2,909] |
| Selection bias (SB) | **30.0** |

*Values in brackets are US estimates, × 270 / 10.1. The weekly correction factor (CF) on the final 62 is 1.67, giving 17.86 (CF × reported rate) against 18.01 (Addendum C).*

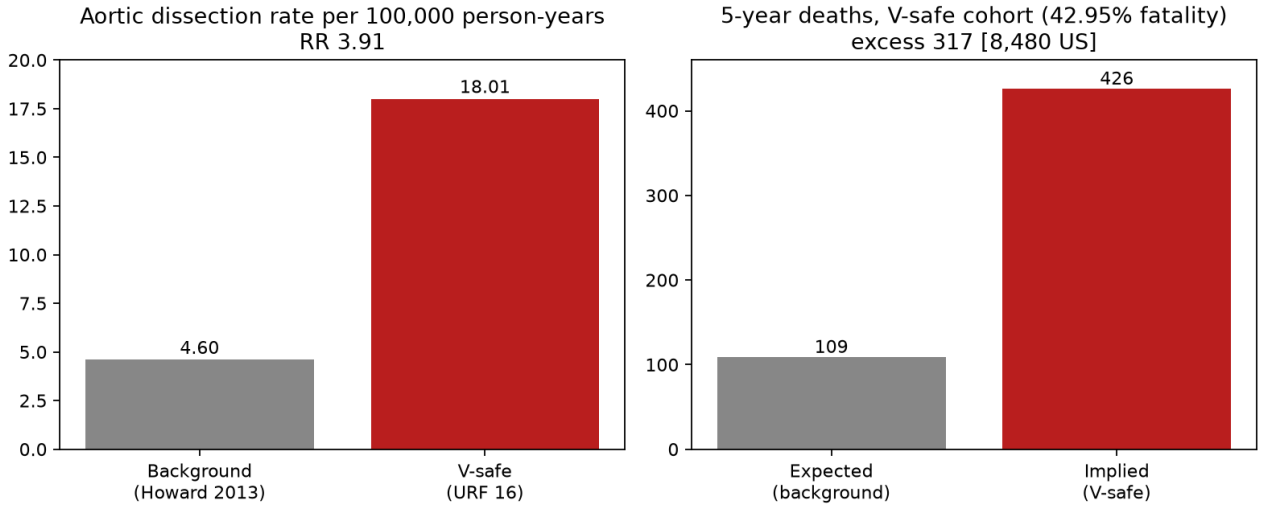



*Figure 2. Left: aortic dissection rate per 100,000 person-years, background against V-safe at URF 16. Right: 5-year deaths in the V-safe cohort, expected against implied, at 42.95% fatality.*

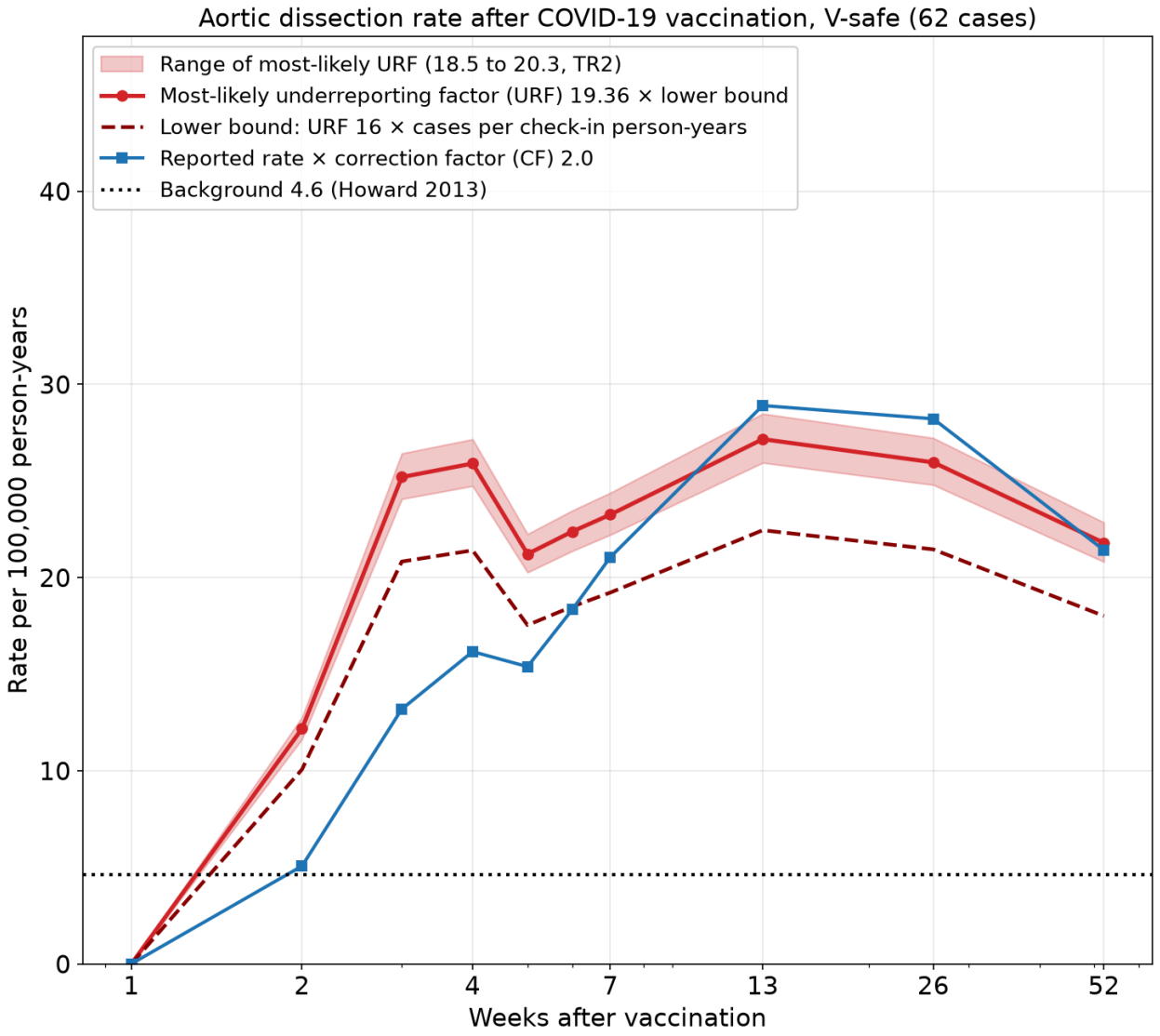



*Figure 2b. Aortic dissection rate per 100,000 person-years against weeks after vaccination (weeks on a log scale). The dotted black line is the background rate of 4.6. For the lower bound, I multiply the cases per check-in person-years by an underreporting factor (URF) of 16. The middle curve uses Technical Report 2's most-likely URF of 19.36, and the shaded band shows its range of 18.49 to 20.30. I multiply the reported rates by a correction factor (CF) of 2.0, which is my CF of 1.67 rescaled to the most-likely URF (1.67 × 19.36 ÷ 16 = 2.0).*

**Selection bias.** The Centers for Disease Control and Prevention (CDC) learned of 62 aortic dissections directly from the people who had them. Only 2 of these reports reached VAERS. Applying the TR2 rule gives SB = 62 / 2 − 1 = **30.0**.

## 2. Background

In an aortic dissection, the inner lining of the aorta tears and blood splits the wall. In the Stanford system, type A involves the ascending aorta and type B does not. Untreated type A dissection kills quickly.

This report applies methods from my earlier V-safe technical reports. I do not re-derive them here:

- **Person-years:** the V-safe check-in clock, 55.09 hundred-thousand person-years (Technical Report 1, TR1, https://x.com/NickKottenstet1/status/2109280153373217216).
- **Underreporting factor (URF) 16:** observed cases × 16 gives the implied cases, which I divide by person-years to get a rate and compare with background (TR1; Technical Report 2, TR2, https://x.com/NickKottenstet1/status/2109763686856331766).
- **Correction factor (CF):** a weekly cross-check of the URF against the check-in clock (TR2).
- **Selection bias (SB):** SB = N / n − 1 (TR2).
- **Seven-factor causality score:** 0 to 2 points per factor, 14 maximum, with the cutoff set by the share the relative risk implies (TR2).

Addendum C gives the derivations, including person-years and the CF.

### 2.1 Introduction: aortic dissection for lay readers

The aorta is the main artery leaving the heart. It rises from the heart (the ascending aorta), arches over, and runs down through the chest (the descending thoracic aorta) and the belly (the abdominal aorta), giving off branches to the head, arms, gut, kidneys and legs.

In an aortic dissection the inner lining of the aorta tears and blood forces its way between the layers of the wall, splitting it into a true and a false channel. The Stanford system sorts dissections by where they sit. Type A involves the ascending aorta and is a surgical emergency: untreated, it can rupture into the pericardium, tear the aortic valve off its support, or cut off the coronary arteries. Type B starts beyond the left subclavian artery. It is usually treated first with blood-pressure and heart-rate control, and then with a stent graft, called thoracic endovascular aortic repair (TEVAR), if it threatens a branch or keeps growing. An intramural haematoma is a close cousin: bleeding inside the wall without a visible tear, managed the same way by segment. When a dissection flap runs into a branch, it can starve the organ or limb that branch feeds. That is called malperfusion.

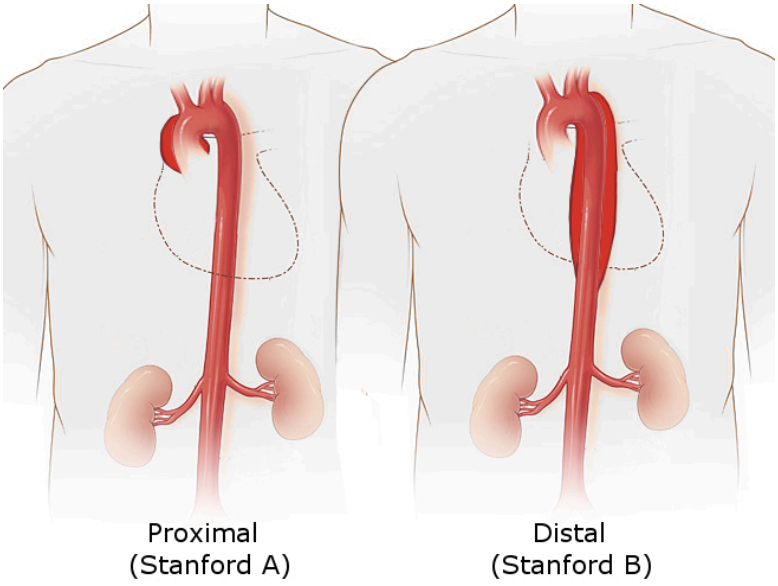



*Illustration. Stanford type A (involves the ascending aorta) and type B (starts beyond the left subclavian artery) aortic dissection. Illustration: Npatchett, Wikimedia Commons, CC BY-SA 4.0.*

Typical symptoms are sudden, tearing chest or back pain, fainting, stroke-like signs, or a cold, numb limb. Many patients die before reaching hospital, and of those who arrive alive, many die within 30 days. These are not mild events. People who survive one remember the date.

## 3. Methods

Addendum C gives the full methods. In brief:

- **Search.** I searched every V-safe free-text entry for dissection and its misspellings, then checked the hits against the CDC Medical Dictionary for Regulatory Activities (MedDRA) coding of the same reports.
    - Sources: the free text released to the Informed Consent Action Network (ICAN) under Freedom of Information Act (FOIA) request 24-01322, joined to the check-ins, the CDC follow-up list and the General Dynamics Information Technology (GDIT) call-center log.
- **Case rule.** A case must name a dissection, tear, rupture or detachment of the aorta itself. Dissections of branch arteries are set aside, as in Howard's case definition. The final count is **62**.
    - Compared with my earlier draft, I added a 35-year-old man whose own words are "dissection in renal aorta" (Case 55). The location is the abdominal aorta at the renal level, as written. The ascending aorta is not mentioned, so it falls under Stanford type B by convention. The text cannot show where the tear began, so it cannot give the DeBakey class. TR2 had set this case aside as a renal artery dissection. I count it, because the words place the dissection in

the aorta itself. It scores 11 of 14. Addendum C gives every headline figure without it as a sensitivity check.

- Case 54's dose factor: her later dose dates are not on file. The call-center and CDC follow-up files log a dose 4 about 21 days before her 2022-10-06 report, which implies an undated dose 3. I score b = 1 (total 9). If dose 3 came before her 6/9/22 onset, she would score 10.
- I moved a subclavian artery dissection to the sensitivity cases.
- I added two men found only by MedDRA code, whose reports came after the free-text release ended (Cases 60 and 61). Both are in the primary set only, as codes with no text, and both score 9.
- I added a 70-year-old man with emergency thoracic and open heart surgery about day 17 after dose 1, who wrote "aortic diversion" [sic] (Case 62). His own words never name a dissection, so he is in the primary set only. He scores 8, or 10 if "diversion" is read as "dissection".
- Addendum B lists every set-aside and sensitivity case.

- **Rates.** I used the V-safe check-in clock of 55.09 hundred-thousand person-years (TR1), URF 16 (TR2) and Howard's background of 4.6 per 100,000 person-years, giving 253 expected. The person-year and correction-factor derivations are in Addendum C.
- **Score.** I used TR2's seven factors (Addendum C). On factor c, pre-existing aortic disease, a known aneurysm, Marfan syndrome or another connective-tissue disorder, or a prior aortic repair scores 0. Only one case named prior disease (Marfan syndrome; c = 0).
- **Exclusions.** Reports of an aneurysm with no dissection are not counted. TR2 covers them.
- **Sex and age.** I took Howard's sex-by-age rates (Figure 1 of Howard 2013) and multiplied them by the V-safe person-time in each band. The V-safe person-time comes from three things:
  - the registrant sex split (6,232,919 women and 3,769,133 men);
  - the age margins in Myers 2023;
  - the age shape of the 672,544 CDC follow-up registrants who have both age and sex on file.

  I assume sex and age are independent, because Myers gives no joint table. I scaled the band expectations so they sum to 253, which keeps Howard's age-sex shape and the 4.6 background. Howard's own crude rate is 6, and the unscaled figures appear in Addendum C.

## 4. Results

### 4.1 How likely are these dissections to be vaccine injuries?

| Score | Cases [share at or above] |
|---|---|
| 13 | 3 [4.8%] |
| 12 | 2 [8.1%] |
| 11 | 6 [17.7%] |
| 10 | 12 [37.1%] |
| **9** | 14 [**59.7%**] |
| **8** | 14 [**82.3%**] |
| 7 | 6 [91.9%] |
| 6 | 5 [100%] |

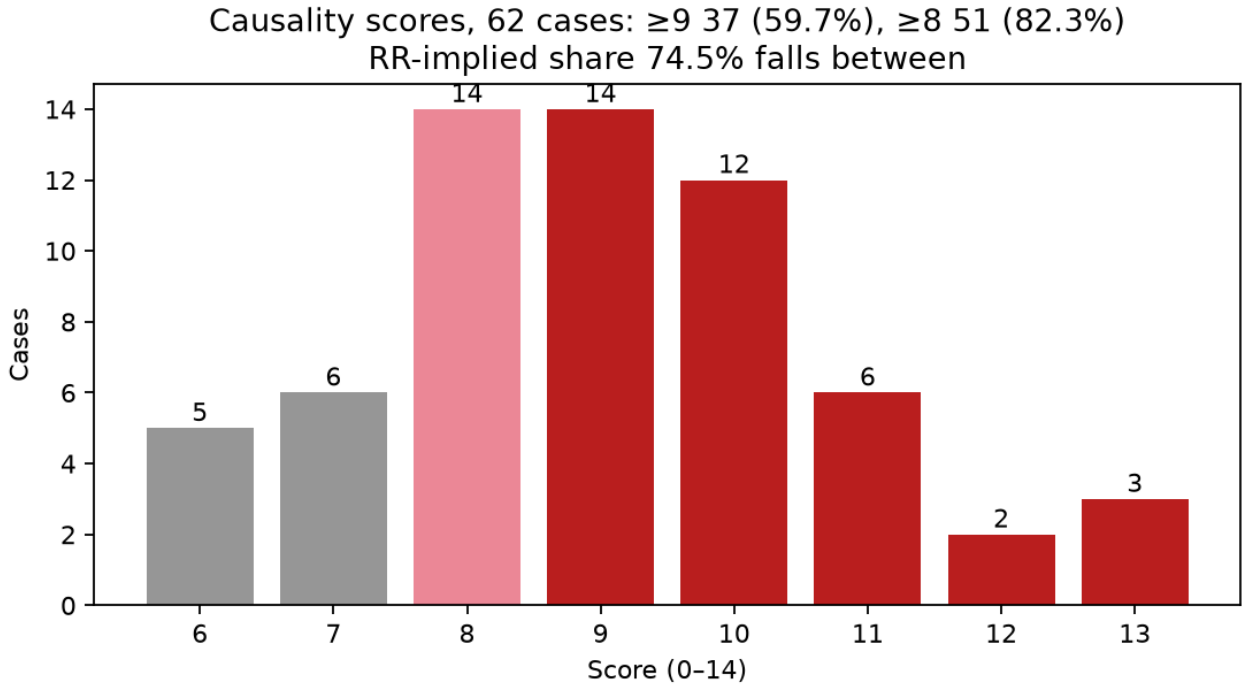



*Figure 3. Causality scores for the 62 aortic dissections. Red bars score 9 or more, and the pink bar scores 8.*

The TR2 rule takes the lowest cutoff whose share is at or under the RR-implied 74.5%, which is 9. **The 37 cases scoring 9 or more are my "most likely" list, and the 13 cases scoring 8 are the upper bracket.** The RR-implied share lies between 59.7% and 82.3%.

### 4.2 The Top 10

As in TR2, I took the top five cases by onset within 42 days, the top three at 43 to 182 days, and the top two after 182 days. Within each window I ranked by total score, then factor a (days to onset), then factor f (bounding by Good check-ins), then younger age. Addendum C sets out the ties.

**Within 42 days**

1. **Case 5**, a 52-year-old man, dose 3 of Pfizer-BioNTech.
   - He dated his admission to day 10 after the dose ("Been in hospital since 12/26/2021"), and he wrote of his aortic dissection at every weekly check-in after that.
   - At 3 months: "out of hospital after aortic dissection type b … controlled by medicdtion [sic] until i see a specialist."
   - At 6 months: "Recently had Tevar surgery."
   - This is the typical course of an acute type B dissection. Treatment starts with blood pressure and heart rate control, followed by thoracic endovascular aortic repair (TEVAR) if the dissection becomes complicated or the false channel keeps growing.
   - The onset is dated, and he named no prior aortic disease. Score 13 of 14.
2. **Case 57**, a 58-year-old man, dose 4 of Pfizer-BioNTech.
   - He reported feeling Good at every check-in through day 35, then wrote at day 42: "Aortic aneurysm dissection surgery. But no covid issues."
   - He went to the emergency department, was hospitalized, and could not work.
   - "Aneurysm dissection" is a lay way of saying aortic dissection.
   - The Good check-ins pin the onset to days 35 to 42. His remark about COVID refers to infection; it does not speak to the vaccine. Score 13.
3. **Case 8**, a 63-year-old woman, dose 3 of Moderna.
   - She wrote: "Dissecting aortic asending [sic] artery on 11/15/21," day 17 after the dose.
   - Two days before that date, at her 14-day check-in, she had reported "Right sided chest pressure and severe reflux."
   - She was hospitalized. At 3 months she reported a "Tracheostomy for vocal cord scarring," which fits a long stay on a breathing tube after surgery.
   - An ascending (Stanford type A) dissection is a surgical emergency. The CDC coded her report only as "unevaluable." Score 13.
4. **Case 9**, a 43-year-old man, a single dose of Janssen (Johnson & Johnson).
   - At day 37 he reported: "Aortic dissection, numbness and no use of right leg."
   - He went to the emergency department and was hospitalized.
   - Losing the use of a leg points to a complicated dissection that has cut off blood flow to the leg or the spinal cord.

- The onset falls between days 28 and 37. He scores 0 on dose only because a single dose cannot be dose 3 or later. Score 12.

5. **Case 4**, a 32-year-old woman, dose 2 of Moderna.
   - At day 12 she wrote: “I had an aortic dissection this week.”
   - She went to the emergency department and was hospitalized. The onset falls between days 6 and 12.
   - A dissection at 32 with no named history is rare in the general population. She is the youngest in the set. Score 12.

**Days 43 to 182**

6. **Case 17**, a 37-year-old man, dose 3 of Moderna. He reported “Aortic dissection” at his 3-month check-in and went to the emergency department. The onset falls between days 42 and 92. Score 11.
7. **Case 35**, a 62-year-old woman, dose 3 of Pfizer-BioNTech. She reported “Aortic dissection” at her 6-month check-in and was hospitalized. The onset falls between days 91 and 182. Score 11.
8. **Case 34**, a 44-year-old woman, dose 2 of Moderna. At her 6-month check-in she wrote: “Aorta artery detached from my heart heart attack.” She went to the emergency department and was hospitalized, and she also ticked clinic or urgent care and telehealth. She repeated the account at her next two check-ins. At 12 months she wrote, “I had 3 heart attacks my aorta artery detached from my heart.” At 6 months after dose 3 she added: “Now I’m always weak and have fainting spells.” The onset falls between days 91 and 182. “Detached from my heart” can describe a tear where the aorta leaves the heart, at the aortic root. A dissection there can block the coronary arteries and cause heart attacks, which fits her account of three. Because she doesn’t use the word dissection, I score the wording 1, not 2. She is in the primary 62 only, not the strict 53. Score 10.

**After 182 days**

9. **Case 54**, a 54-year-old woman, Pfizer-BioNTech. She wrote: “Aorta dissection 6/9/22 - was in hospital 19 days. Chest pains/back pains 9/27/22 - hospital discharge 9/29/22.” She dated the onset herself. She reported feeling Good at her 12-month check-in on 2022-04-19, 51 days before the onset she dated. The CDC follow-up list records an emergency department visit. A 19-day stay points to surgery or a complicated course, and the second admission in September raises concern that the dissection progressed. Her 416 days are counted from dose 2, the latest dose on file before the onset. The call-center and CDC follow-up files place her report 21 days after a dose 4, which came after the onset. That implies a dose 3 whose date is not on file. If it came before 6/9/22, her true interval is shorter than 416 days. Score 9.
   - *Tied at 9, shown beside her:* **Case 44**, a 44-year-old man, dose 2 of Pfizer-BioNTech. He reported “Aortic Dissection Type N” [sic] at his 12-month check-in. He went to the

emergency department and was hospitalized. The onset falls between days 182 and 365. Case 54 takes the slot because a check-in bounds her onset (f = 1) and his is unbounded (f = 0).

10. **Case 52**, a 42-year-old man, dose 2 of Moderna. He reported "Aortic dissection" at his 12-month check-in. He went to the emergency department and was hospitalized. The onset falls between days 182 and 367. Score 9.

Seven of the ten are under 55. Ties are broken by factor a, then f, then younger age (Addendum C).

### 4.3 Sex and age: observed against expected

Section 1 gives the full table, and Addendum A has every case report. The pattern is a gradient by age in both sexes.

- **Under 65:** dissections run at 9.1 times what Howard's rates predict.
- **65 and over:** they run at 2.0 times.
- **The strongest bands:** women aged 55 to 64 (16.9 times) and men under 55 (10.6 times).
- **Bands with no background:** in women under 55 and men aged 35 to 44, Howard's population had no cases at all. V-safe gives 48 and 80 implied dissections there.

**The conservative tests.** Howard's under-55 rates rest on five cases, so I tested the men under 55 three ways. With unscaled Howard rates the ratio is 6.5 times. With the CDC follow-up group's own sex-by-age mix it is 19.3 times. Against the upper 95% confidence limits of Howard's rates, it is 2.1 times. Women aged 55 to 64 face the same test: against Howard's upper limit (77 expected), they are still 1.9 times. The 9 cases with no recorded age would only add to the observed counts.

### 4.4 Deaths

The headline death figure is a projection. **The 739 excess dissections imply 317 deaths within five years in V-safe [8,480 in the US]**, against 109 expected from background.

V-safe recorded no deaths among the 62. None appears in my V-safe death-case table, and their free text and call logs mention no death. This is what I would expect from the way V-safe was built. A person who dies of a type A dissection cannot type a check-in, and in Howard's study a third of all patients died before hospital assessment. Addendum D sets out the death reports.

### 4.5 Died suddenly: my top 4 probable dissection deaths

The 62 survived to report: 60 in their own words, and 2 identified from CDC's MedDRA codes, one of which also reported symptoms consistent with a dissection. To find the people who could not report, I searched from the deaths: free text in which someone reported a sudden death. I scored

each 1, 3 or 5 as a sudden aortic death from a cardiology viewpoint (TR2's method). These four score 5 and read as dissections. None was confirmed by autopsy or imaging, and none is among the 62.

| Case | Woman, age | Dose, day of death | What was written |
|---|---|---|---|
| D-1 | 53 | 1, day 15 | "Had a heart attack and a blockage," then death |
| D-2 | 53 | 2, day 17 | Presumed heart attack at home; emergency crews called |
| D-3 | 39 | 2, day 8 | Died; cause pending autopsy |
| D-4 | 54 | 1, day 27 | Two weeks of fever, shortness of breath and weakness |
| *F-2, beside D-4* | *64* | *2, about day 29* | *"Clotting in the aorta arch," then a massive stroke* |

F-2 had a clot in the aortic arch, not a dissection. I scored her 5 for an aortic cause and 3 on dissection against rupture (Addendum D, D3.2). She sits outside the dissection counts, and the top 4 stay D-1 to D-4.

No call reached any of them; the attempts came from one day to a year after the death. After a second-pass review, these four are final. A wider search of men under 55 and women 55 to 64 found no new death that scores 5 on both counts; it found one aortic-arch clot (F-2, listed outside the counts) and two possible cases (M-1 and M-5). All nine are scored in Addendum D, section D3.2.

## 5. Discussion

The rate, the score and the age pattern point the same way.

- **The rate.** The V-safe dissection rate is 3.91 times background at a URF that TR2 showed to be conservative.
- **The score.** Between 59.7% and 82.3% of the cases score as likely injuries, which brackets the 74.5% that the RR implies.
- **The age pattern.** The excess sits where background dissection is rarest: under 65 in both sexes, and most of all in women aged 55 to 64 and men under 55. Background dissection is a disease of old age and long-standing hypertension. A new cause that acts on the vessel wall would show up first where background is lowest.

**Limits.**

- **Howard's rates.** Howard's age-band rates come from 52 cases, so the under-55 rates rest on five events. I give the confidence-limit check above.
- **Sex and age mix.** The V-safe sex-by-age mix assumes independence. The CDC follow-up group skews older than Myers' registrants, and I show both versions.

- **Onset.** Onset is often the midpoint of a check-in window rather than a known date.
- **The scores.** Nine cases were newly scored for this report, seven from their raw check-in rows and two from their CDC codes (Addendum C).
- **US scaling.** It assumes V-safe registrants resemble vaccinated Americans.
- **Deaths.** These are projected from published survival, not counted.

**What I ask of the CDC.** Contact each of the 62, or their next of kin, and record what happened to them, including whether they are alive.

## 6. Conclusion

V-safe holds 62 reports of aortic dissection. The excess climbs as age falls, in women and men alike: 9.1 times background under 65 and 2.0 times at 65 and over. Overall, at URF 16, the rate is 3.91 times background. That implies 739 excess dissections in V-safe [19,744 in the US] and 317 [8,480] projected deaths within five years. Three in four of these dissections are likely vaccine injuries.

**A word on the limits of URF 16.** I derived URF 16 against all V-safe participants, the full registrant denominator. Anyone who reuses it must make sure their denominator matches that population. When an outcome is tracked in a well-defined V-safe subpopulation, the URF has to be worked out for that group. Pregnancy losses are the example: V-safe tracked expectant mothers in its pregnancy registry. A future report will take this up for pregnancy losses.

## A challenge to the reader

Sixty-two people reported an aortic dissection to V-safe. Only **2** of those reports reached VAERS. Both are in Addendum A, among the 60 who described it in their own words. Can you find them? And which of the rest would you have reported?

I thank OpenVAERS for keeping VAERS data open to the public.

## Addenda

- **Addendum A.** All 62 V-safe aortic dissection case reports, ranked.
- **Addendum B.** Set-aside and sensitivity cases.
- **Addendum C.** Methods, scoring rubric, and the person-year and correction-factor derivations.
- **Addendum D.** Death reports, including the full died-suddenly search (Section 4.5).

## References


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