

**Table S1.** Details of the included studies; Pt. (patients), M (male), F (female), DS (delto-split), (DP delto-pectoral).

| First Author, Year           | Country     | Comparative | Pt. (M-F)    | Age   | Neer Classification |     |     | Surgical approach |
|------------------------------|-------------|-------------|--------------|-------|---------------------|-----|-----|-------------------|
|                              |             |             |              |       | N2                  | N3  | N4  |                   |
| Acklin et al, 2009[1]        | Switzerland | NO          | 29 (9–20)    | 64    | N/A                 | N/A | N/A | DS                |
| Acklin et al, 2013[2]        | Switzerland | NO          | 97 (N/A)     | 62    | N/A                 | N/A | N/A | DS                |
| Aggarwal et al, 2010[3]      | India       | NO          | 47 (27–20)   | 58.5  | 11                  | 22  | 14  | DP                |
| Aliuddin et al, 2016[4]      | Pakistan    | NO          | 20 (12–8)    | 40    | 4                   | 10  | 6   | DP                |
| Bachelier et al, 2014[5]     | Germany     | NO          | 50 (20–30)   | 62.7  | 15                  | 18  | 17  | DS                |
| Bandalovic et al, 2014[6]    | Croatia     | NO          | 67 (N/A)     | N/A   | N/A                 | N/A | N/A | DP/DS             |
| Beeres et al, 2017[7]        | Switzerland | YES         | 282 (85–197) | 64    | 58                  | 153 | 74  | DP/DS             |
| Bhayana et al, 2021[8]       | India       | YES         | 84 (45–39)   | 45    | 0                   | 40  | 44  | DP/DS             |
| Björkenheim et al, 2004[9]   | Finland     | NO          | 72 (28–44)   | 67    | 38                  | 22  | 12  | DP                |
| Boesmueller et al, 2016[10]  | Austria     | NO          | 154 (61–93)  | 55.8  | 41                  | 71  | 42  | DP                |
| Borer et al, 2017[11]        | Switzerland | YES         | 62 (16–46)   | 64    | 18                  | 4   | 10  | DP/DS             |
| Boudard et al, 2014[12]      | France      | YES         | 33 (19–14)   | 49.6  | 0                   | 21  | 12  | DP                |
| Bu et al, 2021[13]           | China       | YES         | 48 (17–31)   | 66.3  | 28                  | 13  | 7   | DP                |
| Buchmann et al, 2021[14]     | Switzerland | YES         | 198 (75–123) | 64.3  | N/A                 | N/A | N/A | DP/DS             |
| Cai et al, 2012[15]          | China       | YES         | 12 (1–11)    | 72.4  | 0                   | 0   | 12  | DP                |
| Caliskan et al, 2019[16]     | Turkey      | YES         | 45 (18–27)   | 53.2  | 11                  | 21  | 13  | DS                |
| Cha et al, 2017[17]          | South Korea | YES         | 32 (8–24)    | 67.8  | 8                   | 21  | 3   | DP                |
| Chen et al, 2019[18]         | China       | YES         | 112 (37–75)  | 64.29 | 52                  | 60  | 0   | DP                |
| Chen et al, 2020[19]         | Taiwan      | YES         | 35 (13–22)   | 56.1  | 12                  | 17  | 6   | DP                |
| Cho et al, 2017[20]          | South Korea | NO          | 39 (12–27)   | 59    | 14                  | 22  | 3   | DP                |
| Cohen et al, 2009[21]        | Brazil      | NO          | 26 (12–14)   | 57    | 7                   | 10  | 7   | DP                |
| Davids et al, 2020[22]       | USA         | YES         | 75 (N/A)     | 59.9  | 40                  | 35  | 0   | DP                |
| Doshi et al, 2017[23]        | India       | NO          | 53 (24–29)   | 54.3  | 19                  | 17  | 11  | DP                |
| Erasmus et al, 2014[24]      | Italy       | NO          | 81 (39–42)   | 56    | 7                   | 40  | 35  | DP                |
| Falez et al, 2019[25]        | Italy       | NO          | 76 (26–50)   | 68.5  | 3                   | 35  | 38  | DS                |
| Faraj et al, 2011[26]        | Netherlands | YES         | 37 (N/A)     | N/A   | N/A                 | N/A | N/A | DS                |
| Fattoretto et al, 2016[27]   | Italy       | NO          | 55 (17–38)   | 63.4  | 0                   | 16  | 39  | DP/DS             |
| Fazal et al, 2009[28]        | UK          | NO          | 27 (6–21)    | 56    | 13                  | 12  | 2   | DP                |
| Fraser et al, 2020[29]       | Norway      | YES         | 60 (8–52)    | 74.7  | 0                   | 29  | 31  | DP                |
| Geiger et al, 2010[30]       | Germany     | NO          | 28 (8–20)    | 60.7  | 8                   | 12  | 8   | DP                |
| George et al, 2021[31]       | India       | NO          | 35 (25–10)   | 52    | 12                  | 21  | 14  | DP                |
| Gonc et al, 2017[32]         | Turkey      | NO          | 31 (12–19)   | 58.4  | 4                   | 14  | 13  | DS                |
| GraC.I.telli et al, 2013[33] | Brazil      | NO          | 40 (12–28)   | 61.8  | 16                  | 22  | 2   | DP                |
| GraC.I.telli et al, 2016[34] | Brazil      | YES         | 33 (8–25)    | 66.4  | 16                  | 17  | 0   | DP                |
| Handschin et al, 2008[35]    | Switzerland | NO          | 31 (11–20)   | 62    | 8                   | 13  | 10  | DP                |
| Hengg et al, 2019[36]        | Austria     | YES         | 34 (5–29)    | 76    | 5                   | 17  | 12  | DP                |

|                               |             |     |              |      |     |     |     |       |
|-------------------------------|-------------|-----|--------------|------|-----|-----|-----|-------|
| Jaura et al, 2014[37]         | India       | YES | 30 (20–10)   | 65   | 12  | 14  | 4   | DP    |
| Klitscher et al, 2008[38]     | Germany     | NO  | 30 (11–19)   | 59   | 2   | 16  | 12  | DP    |
| Koukakis et al, 2006[39]      | Greece      | NO  | 20 (8–12)    | 61.7 | 5   | 11  | 4   | DP    |
| Kumar et al, 2014[40]         | India       | NO  | 51 (35–16)   | 38   | 8   | 15  | 23  | DP    |
| Launonen et al, 2019[41]      | UK          | YES | 44 (3–41)    | 82   | 44  | 0   | 0   | N/A   |
| Lee et al, 2017[42]           | South Korea | YES | 31 (11–20)   | 58.6 | 31  | 0   | 0   | N/A   |
| Leonard et al, 2009[43]       | Ireland     | NO  | 32 (9–23)    | 61.6 | N/A | N/A | N/A | DP    |
| Lorenz et al, 2020[44]        | Austria     | YES | 31 (N/A)     | 59   | 0   | 12  | 19  | DP    |
| LuC.I.ani et al, 2020[45]     | Italy       | YES | 26 (3–23)    | 73   | 0   | 9   | 15  | DP    |
| Martinez et al, 2009[46]      | Spain       | NO  | 58 (31–27)   | 61   | 0   | 33  | 25  | DP    |
| MatejC.I.c et al, 2013[47]    | Croatia     | NO  | 59 (9–50)    | 70.5 | 0   | 32  | 27  | DP    |
| Miyazaki et al, 2012[48]      | Brazil      | NO  | 56 (19–37)   | 62   | 13  | 28  | 8   | DP    |
| Monteiro et al, 2011          | Brazil      | NO  | 33 (14–19)   | 57   | 17  | 13  | 4   | DP    |
| Moonot et al, 2007[49]        | UK          | NO  | 32 (9–23)    | 59.9 | 0   | 20  | 12  | DP    |
| Norouzi et al, 2012[50]       | Iran        | NO  | 37 (27–10)   | 50.1 | 13  | 20  | 4   | N/A   |
| Ockert et al, 2014[51]        | Germany     | NO  | 43 (12–31)   | 58.2 | N/A | N/A | N/A | DP    |
| Oh et al, 2015[52]            | Germany     | NO  | 26 (6–20)    | 67   | 0   | 17  | 9   | DS    |
| Olerud et al, 2010[53]        | Sweden      | NO  | 50 (10–40)   | 75   | 50  | 0   | 0   | DP    |
| Ortmaier et al, 2015[54]      | Austria     | YES | 30 (13–17)   | 31.3 | 0   | 10  | 20  | N/A   |
| Papadopoulos et al, 2009[55]  | Greece      | NO  | 29 (12–17)   | 62.3 | 0   | 22  | 7   | DP    |
| Parmaksizoglu et al, 2010[56] | Turkey      | NO  | 32 (10–22)   | 63   | 0   | 12  | 20  | DP    |
| Plath et al, 2019[57]         | Germany     | YES | 32 (7–25)    | 77.1 | 4   | 24  | 4   | DP/DS |
| Robinson et al, 2010[58]      | Scotland    | NO  | 47 (21–26)   | 57   | 27  | 12  | 8   | DS    |
| Seo et al, 2020[59]           | South Korea | NO  | 27 (12–15)   | 53   | 5   | 14  | 8   | DP    |
| Setaro et al, 2020[60]        | Italy       | YES | 64 (N/A)     | 61.5 | 37  | 27  | 0   | DP    |
| Shahid et al, 2008[61]        | UK          | NO  | 41 (9–32)    | N/A  | 11  | 11  | 19  | DP    |
| Shi et al, 2011[62]           | China       | NO  | 43 (15–28)   | 68.7 | 10  | 21  | 12  | DP    |
| Shin et al, 2021[63]          | South Korea | NO  | 56 (12–44)   | 74.3 | 21  | 27  | 8   | DP    |
| Siebenbürger et al, 2019[64]  | Germany     | YES | 55 (12–43)   | 76.6 | 20  | 22  | 13  | DP    |
| Sohn et al, 2017[65]          | South Korea | YES | 90 (N/A)     | 61.8 | 35  | 44  | 11  | DP/DS |
| Spross et al, 2012[66]        | Switzerland | YES | 22 (4–18)    | 75   | N/A | N/A | N/A | DP    |
| Spross et al, 2012[67]        | Switzerland | NO  | 294 (71–223) | 72.9 | N/A | N/A | N/A | DP    |
| Trepat et al, 2012            | Spain       | YES | 11 (3–8)     | 68.3 | 11  | 0   | 0   | DP    |
| Urda et al, 2012[68]          | Spain       | NO  | 15 (3–12)    | 71   | 15  | 0   | 0   | DP    |
| Vijayvargiya et al, 2016[69]  | India       | NO  | 26 (19–7)    | 46   | 5   | 12  | 9   | DS    |
| Voigt et al, 2011[70]         | Germany     | YES | 31 (N/A)     | 72   | 0   | 27  | 4   | DP    |
| Wang et al, 2019[71]          | China       | YES | 46 (13–33)   | 72.5 | 0   | 0   | 46  | DP    |
| Xue et al, 2018[72]           | China       | YES | 43 (N/A)     | 57   | 43  | 0   | 0   | DS    |
| Zeng et al, 2018[73]          | China       | YES | 181 (64–117) | 57.4 | 78  | 75  | 28  | DP    |
| Zhao et al, 2019[74]          | China       | YES | 21 (12–9)    | 69   | 0   | 15  | 6   | DP    |

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