## S3 Appendix Table 3: Pairwise comparison of selected prosthesis sizes between the end-diastolic versus non-ECGsynchronized measurements

- Green cells represent cases with agreement in prosthesis size between end-diastole and non-ECG-synchronized measurement
- Yellow cells represent cases where smaller prosthesis size would be selected based on non-ECG-synchronized measurement compared to end-diastolic measurement
- Blue cells represent cases where larger prosthesis size would be selected based on non-ECG-synchronized measurement compared to end-diastolic measurement
- Diagonally crossed cells indicate cases where unsuitable annular dimensions (too small/ too big) would be assessed

| A) ESV-Annular Area |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| End-diastolic <br> $(70 \%)$ | Non-ECG-synchronized |  |  |  |  |
|  | n.: | 20 mm | 23 mm | 26 mm | 29 mm |
| 20 mm | $\mathbf{4}$ | 3 x | 1 | 0 | 0 |
| 23 mm | $\mathbf{1 5}$ | 1 | 11 | 3 | 0 |
| 26 mm | $\mathbf{3 0}$ | 0 | 5 | 23 | 2 |
| 29 mm | $\mathbf{1}$ | 0 | 0 | 0 | 1 |


| B) ESV- Area Derived Diameter ( $\left.\mathbf{D}_{\mathbf{A}}\right)$ |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| End-diastolic <br> $(70 \%)$ | Non-ECG-synchronized |  |  |  |  |
|  | n.: | 20 mm | 23 mm | 26 mm | 29 mm |
| 20 mm | $\mathbf{4}$ | 3 | 1 | 0 | 0 |
| 23 mm | $\mathbf{1 5}$ | 0 | 12 | 3 | 0 |
| 26 mm | $\mathbf{3 0}$ | 0 | 3 | 25 | 2 |
| 29 mm | $\mathbf{1}$ | 0 | 0 | 0 | 1 |


| C) MCV-Short Annular Diameter |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| End-diastolic <br> $(70 \%)$ | Non-ECG-synchronized |  |  |  |  |
|  | n.: | Not- <br> suitable | 23 mm | 26 mm | 29 mm |
| 23 mm | $\mathbf{1 1}$ | 1 | 7 | 3 | 0 |
| 26 mm | $\mathbf{3 2}$ | 0 | 3 | 25 | 4 |
| 29 mm | $\mathbf{7}$ | 0 | 0 | 5 | 2 |


| D) MCV-Perimeter-Measured |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| End-diastolic <br> (70\%) phase | Non-ECG-synchronized phase |  |  |  |  |
|  | n.: | 23 mm | 26 mm | 29 mm | Not- <br> suitable |
| 23 mm | $\mathbf{0}$ | 0 | 0 | 0 | 0 |
| 26 mm | $\mathbf{1 1}$ | 0 | 8 | 3 | 0 |
| 29 mm | $\mathbf{3 0}$ | 0 | 2 | 25 | 3 |
| Not- <br> suitable | $\mathbf{9}$ | 0 | 0 | 0 | 9 |


| E) MCV-Perimeter-Calculated |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| End-diastolic <br> $(70 \%)$ | Non-ECG-synchronized |  |  |  |  |
|  | n.: | Not- <br> suitable | 23 mm | 26 mm | 29 mm |
| 23 mm | $\mathbf{1 4}$ | 1 | 9 | 4 | 0 |
| 26 mm | $\mathbf{3 0}$ | 0 | 2 | 26 | 2 |
| 29 mm | $\mathbf{6}$ | 0 | 0 | 3 | 3 |

