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Left and right ventricular longitudinal strain-volume/area relationships in elite athletes.

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Article

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Right Ventricle n = 20

| Timepoint | Area CoV (%) (95% CI) | Strain CoV (%) (95% CI) |
|------------------|----------------------------------|------------------------------------|
| 1 | 2.1 (1.5-3.0) | / |
| 2 | 2.6 (2.0-3.8) | 100.7 (71.2-181.8) |
| 3 | 3.5 (2.6-5.0) | 23.7 (18.0-34.7) |
| 4 | 4.1 (3.1-5.9) | 10.7 (8.2-15.5) |
| 5 | 4.1 (3.1-6.0) | 8.0 (6.1-11.5) |
| 6 | 4.0 (3.1-5.8) | 7.2 (5.5-10.3) |
| 7 | 5.3 (4.1-7.7) | 5.4 (4.1-7.8) |
| 8 | 4.2 (3.2-6.1) | 4.8 (3.6-6.9) |
| 9 | 5.3 (4.0-7.7) | 4.5 (3.5-6.6) |
| 10 | 5.6 (4.3-8.1) | 4.4 (3.4-6.4) |
| 11 | 5.3 (4.1-7.7) | 4.0 (3.1-5.8) |
| 12 | 6.7 (5.1-9.7) | 6.7 (5.1-9.7) |
| 13 | 5.7 (4.4-8.2) | 9.7 (7.4-14.0) |
| 14 | 4.5 (3.4-6.5) | 12.9 (9.9-18.8) |
| 15 | 4.4 (3.4-6.4) | 16.1 (12.2-23.3) |
| 16 | 4.3 (3.3-6.2) | 14.1 (10.7-20.5) |
| 17 | 2.8 (2.2-4.1) | 14.9 (11.3-21.6) |
| 18 | 3.2 (2.4-4.6) | 13.4 (10.2-19.4) |
| 19 | 3.4 (2.6-4.8) | 15.5 (11.9-22.6) |
| 20 | 3.1 (2.4-4.4) | 26.4 (20.0-38.8) |
| 21 | 2.1 (1.5-3.0) | 138.8 (93.5-289.6) |

| Vol % | Systolic strain CoV (%) (95% CI) | Diastolic strain CoV (%) (95% CI) | Sys-Dia Coup ICC (95% CI) |
|--------------|---|--|--|
| 90 | 45.3 (34.0-69.0) | 26.6 (20.2-39.1) | 0.692 (0.221-0.878) |
| 80 | 20.7 (15.8-30.3) | 17.4 (13.3-25.3) | 0.760 (0.393-0.905) |
| 70 | 12.9 (9.8-18.7) | 12.3 (12.2-17.6) | 0.722 (0.298-0.890) |
| 60 | 9.4 (7.2-13.6) | 9.0 (6.9-13.1) | 0.531 (-0.186-0.814) |

| | | | |
|-----------|---------------------|---------------------|-------------------------|
| 50 | 8.3 (6.3-12.0) | 8.3 (6.3-12.0) | 0.372 (-0.587-0.751) |
| 40 | 9.0 (6.8-13.0) | 9.6 (7.4-14.0) | 0.661 (0.143-0.866) |
| 30 | 10.5 (8.0-15.3) | 12.1 (9.3-17.6) | 0.756 (0.383-0.903) |
| 20 | 12.5 (9.6-18.2) | 15.1 (11.6-22.0) | 0.787 (0.463-0.916) |
| 10 | 14.7 (11.2-21.4) | 18.5 (14.1-26.9) | 0.801 (0.497-0.921) |

Left Ventricle n = 20

| Timepoint | Volume CoV % (95% CI) | Strain CoV % (95% CI) |
|------------------|----------------------------------|----------------------------------|
| 1 | 1.2 (0.9-1.7) | / |
| 2 | 2.2 (1.7-3.2) | 62.6 (46.2-99.6) |
| 3 | 2.5 (1.9-3.7) | 44.4 (33.3-67.4) |
| 4 | 3.3 (2.5-4.8) | 31.6 (24.0-46.9) |
| 5 | 3.3 (2.5-4.8) | 11.94 (9.1-17.3) |
| 6 | 4.4 (3.4-6.4) | 8.7 (6.6-12.6) |
| 7 | 5.7 (4.4-8.3) | 7.3 (5.6-10.5) |
| 8 | 6.6 (5.0-9.5) | 6.5 (5.0-9.5) |
| 9 | 5.8 (4.4-8.4) | 6.4 (4.9-9.2) |
| 10 | 6.1 (4.7-8.8) | 6.1 (4.7-8.9) |
| 11 | 7.5 (5.7-10.8) | 5.9 (4.5-8.5) |
| 12 | 8.0 (6.1-11.6) | 7.2 (5.5-10.5) |
| 13 | 5.4 (4.1-7.7) | 9.0 (6.9-13.1) |
| 14 | 5.5 (4.2-7.9) | 10.6 (8.1-15.4) |
| 15 | 3.5 (2.7-5.0) | 10.3 (7.8-14.9) |
| 16 | 2.7 (2.1-4.0) | 8.7 (6.7-12.6) |
| 17 | 2.7 (2.1-3.9) | 8.8 (6.7-12.7) |
| 18 | 2.7 (2.1-3.9) | 9.0 (6.9-13.0) |
| 19 | 3.0 (2.3-4.3) | 9.4 (7.2-13.5) |
| 20 | 2.0 (1.6-2.9) | 63.1 (46.6-100.6) |
| 21 | 1.2 (0.9-1.7) | 35.4 (26.7-52.8) |

| Vol % | Systolic strain CoV (%) (95% CI) | Diastolic strain CoV (%) (95% CI) | Sys-Dia Coup ICC (95% CI) |
|--------------|---|--|--|
| 90 | 33.2 (25.1-49.3) | 15.1 (11.5-22.0) | 0.215 (-0.984-0.689) |
| 80 | 19.2 (14.7-28.0) | 10.6 (8.1-15.4) | 0.207 (-1.003-0.686) |
| 70 | 13.4 (10.2-19.4) | 9.1 (7.0-13.2) | 0.265 (-0.856-0.709) |
| 60 | 9.7 (7.4-14.0) | 7.9 (6.0-11.5) | 0.372 (-0.586-0.752) |
| 50 | 7.4 (5.6-10.7) | 7.2 (5.5-10.5) | 0.485 (-0.301-0.796) |
| 40 | 6.8 (5,2-9,8) | 7.2 (5.5-10.4) | 0.198 (-1.026-0.683) |
| 30 | 7.8 (6.0-11.3) | 7.8 (6.0-11.3) | -0.141 (-1.882-0.548) |
| 20 | 9.8 (7.5-14.2) | 8.9 (6.8-12.9) | -0.161 (-1.933-0.541) |
| 10 | 12.3 (9.4-17.8) | 10.5 (8.0-15.2) | -0.128 (-1.850-0.553) |