**Supplementary Material.**

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**Figure S1***. Comparison of the number of TNCs/ml of adipose tissue* ***(A,B)*** *and cellular viability* ***(C,D)*** *in separately Females and Males cohorts based on surgeons.*

Females: 1. N=18, 2. N=7, 3. N=17, 4. N=11, 5. N=19, 6. N=19, 7. N=6, 8. N=21, 9. N=14, 10. N= 22, 11. N=8, 12. N=29.

Males: 1. N=7, 2. N=5, 3. N=9, 4. N=2, 5. N=8, 6. N=13, 7. N=8, 8. N=13, 9. N=11, 10. N= 14, 11. N=6, 12. N=15.

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**Figure S2.** *SVF Sub-populations analyses in Females and Males cohorts.*

**(A,B,C)** Females: 1. N=18, 2. N=7, 3. N=17, 4. N=11, 5. N=19, 6. N=19, 7. N=6, 8. N=21, 9. N=14, 10. N= 22, 11. N=8, 12. N=29.

**(D,E,F)** Males: 1. N=7, 2. N=5, 3. N=9, 4. N=2, 5. N=8, 6. N=13, 7. N=8, 8. N=13, 9. N=11, 10. N= 14, 11. N=6, 12. N=15.



**Figure S3.** *Comparison of the number of TNCs/ml of adipose tissue* ***(A,B)*** *and viability* ***(C,D)*** *between the different anatomical areas of collection in Females and Males.*

In Females: Abdomen N=56, Flanks N=34, Hips N=12, Lumbar N=8, Others N=81. In Males: Abdomen N=51, Flanks N=18, Hips N=8, Lumbar N=8, Others N=26

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**Figure S4***. SVF Sub-populations analyses in Females and Males cohorts comparing different anatomical areas of collection.* **(A, B, C)** Females + Males N=302. **(D, E, F)** Females: Abdomen N=56, Flanks N=34, Hips N=12, Lumbar N=8, Others N=81. **(G, H, I)** Males: Abdomen N=51, Flanks N=18, Hips N=8, Lumbar N=8, Others N=26.

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**Figure S5.** *Viability comparison between 4 age groups in both Females + Males cohort and separate Females and Males cohorts.* **(A)** Females+ Males: (20-39) N=59, (40-49) N=117, (50-59) N=85, (60-77) N=41.  **(B)** Females: (20-39) N=41, (40-49) N=83, (50-59) N=45, (60-77) N=22. **(C)** Males: (20-39) N=18, (40-49) N=34, (50-59) N=40, (60-77) N=19.

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**Figure S6.** *Comparison of the number of ASCs/ml of adipose tissue in Females+ Males cohort and separately Females and Males cohorts between age groups.*

**(A)**Females+ Males: (20-39) N=59, (40-49) N=117, (50-59) N=85, (60-77) N=41. **(B)** Females: (20-39) N=41, (40-49) N=83, (50-59) N=45, (60-77) N=22. **(C)** Males: (20-39) N=18, (40-49) N=34, (50-59) N=40, (60-77) N=19

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**Figure S7.** *Comparison of the number of EPCs/ml of adipose tissue in Females+ Males cohort and separately Females and Males cohorts between age groups.*

**(A)**Females+ Males: (20-39) N=59, (40-49) N=117, (50-59) N=85, (60-77) N=41.

**(B)** Females: (20-39) N=41, (40-49) N=83, (50-59) N=45, (60-77) N=22.

**(C)** Males: (20-39) N=18, (40-49) N=34, (50-59) N=40, (60-77) N=19.



**Figure S8.** *Comparison of the number of Pericytes/ml of adipose tissue in Females+ Males cohort and separately Females and Males cohorts between age groups.*

**(A)** Females+ Males: (20-39) N=59, (40-49) N=117, (50-59) N=85, (60-77) N=41.

**(B)** Females: (20-39) N=41, (40-49) N=83, (50-59) N=45, (60-77) N=22.

**(C)** Males: (20-39) N=18, (40-49) N=34, (50-59) N=40, (60-77) N=19.