Supplemental Table 1: **Demographic and anthropometric data in people with osteogenesis imperfecta grouped according to Sillence Type.**

	Type III	Type IV	Type VI	HC
N	8	16	4	60
Sex (% Female)	62.5	56.2	50	58.3
Race (% Non-Hispanic White)	100	81.3	83%	76.7
Age (y)	26.75±3.1	24±1.1	16.75±1.1	21.9±3.3
Age Range (y)	17-49	9-42	9-31	6-55
Height (cm)	101.78±0.7	140.3±0.93	119.3±1.42	164.4±4.0
Body Weight (kg)	41.276±2.1	55.53±1.79	30.08±0.78	75.9±5.4
Fat Mass (kg)	17.92±2.03	20.64±1.43	10.12±0.76	26.31±3.89
FM%	36.10±1.17	34.79±0.66	32.39±0.71	32.7±1.2
Lean Mass (kg)	22.15±0.96	33.49±1.24	18.80±0.05	47.0±3.91
BMI (kg/m^2)	36.0±1.15	27.6±1.0	25.5±1.69	27.1±2.9
BMI (z-score)	1.69±0.4	0.84	-0.37	1.08±0.97
Obesity (%)	50	37.5	0	31
Respiratory Quotient	0.83±0.01	0.83±0.2	0.87±0.03	0.84±0.22

Supplemental Table 2: **Demographic and anthropometric data in people with osteogenesis imperfecta grouped as having genetic alterations affecting COL1A1 and COL1A2 glycine or non-glycine moieties, or in Non-*COL* genes.**

	COL1A1 Gly	COL1A1 Non-Gly	COL1A2 Gly	COL1A2 Non-Gly	Non-COL	HC
N	11	4	8	1	6	60
Sex (% Female)	63.6	25	75	0	50	58.3
Race (% Non-Hispanic White)	100	75	75	100	83.3	76.7
Age (y)	27.09±0.9	24±0.9	22.6±1.2	23	17.5±1.2	21.9±3.3
Age Range (y)	15-49	13-32	9-42	23	8-31	6-55
Height (cm)	114.5±1.0	152.8±1.3	125.7±0.6	181.4	121.8±1.4	164.4±4.0
Body Weight (kg)	47.3±2.07	56.4±1.4	45.9±1.8	105	34.7±1.6	75.9±5.4
Fat Mass (kg)	19.94±2.1	16.04±1.8	18.9±4.1	38.8	12.2±0.85	26.31±3.89
FM%	36.25±12.0	29±0.4	36.7±0.8	36.8	35.4±0.8	32.7±1.2
Lean Mass (kg) (p=0.00)	26.3±1.0	38.1±1.8	25.7±1.2	63.3	21.4±1.2	47.0±3.91
BMI (kg/m^2)	34.1±1.2	24.4±0.66	28.2±1.2	31.9	25.9±1.3	27.1±2.9
BMI (z-score)	1.5	0.53	0.84	1.83	0.22	1.08±0.97
Obesity (%)	45.4	25	37.5	100	33.3	31
Overweight or Obesity (%)	63.6	50	37.5	100	33.3	50
Respiratory Quotient	0.83±0.2	0.84±0	0.83±0	0.84	0.85±0	0.84±0.22