Osteoporosis after spinal cord injury

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Many of the reference numbers in the Tables [1](#), [2](#), [3](#) and [4](#) were incorrect. The correct tables are given here.

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Table 1 Sublesional bone mineral density in spinal cord-injured patients

Author	Type of study	Duration after injury	Males	Females	Age	Skeletal site measured	BMD (Z-score, SD or % loss or reduction of BMD)
Bauman et al. [25]	Prospective	3–26 years	8		25–58 years	Lower limb	–35%
Biering et al. [11]	Prospective	9 days–53 months	8			Pelvis	–29%
						Femoral neck	–30~40%
						Distal femur	–48%
						Proximal tibia	–45%
						Femur diaphysis	–25%
						Tibia diaphysis	–25%
Clasey et al. [23]	X-sectional	0.6–35.3 years	21	8	23–56 years	Lower extremity	–28.20%
Dauty et al. [10]	X-sectional	>1 years	31		18–60 years	Femoral neck	–30%
						Femoral trochanter	–39%
						Distal femur	–70%
						Proximal tibia	–52%
de Bruin et al. [30]	Prospective	3.5 years	9	1	19–81 years	Distal tiabial trabecular bone	–40%
						Distal tiabial compact bone	–11%
Demirel et al. [15]	X-sectional	2–30 months	32	9	19–49 years	Lower extremity	–2.19±3.5 SD
Finsen et al. [12]	X-sectional	7 months–33 years	19		15–64 years	Tibia distal diaphysis	–26%
						Tibia distal metaphysic	–45%
Frey-Rindova et al. [13]	Prospective	12 months	27	3	19–59 years	Tibia trabecular bone	–15%
						Tibia cortical bone	–7%
Garland et al. [31]	Prospective		6			Distal femur	–27%
						Proximal tibia	–32%
						Os calcis	–38%
Garland et al. [8]	X-sectional	2–8 years		6	20–30 years	Knee	–37.90%
		3–30 years		16	31–50 years	Hip	–17.50%
						Knee	–41.30%
		9–44 years		9	53–77 years	Hip	–25%
						Knee	–47%
						Hip	–25.50%
Jones et al. [32]	X-sectional	7–372 months	20 (total)		17–52 years	Femur	–27%
						Hip	–37%
Kiratli et al. [24]	X-sectional	0.1–51 years	239	7	27–78 years	Femoral neck	–27%
						Femoral midshaft	–25%
						Distal femur	–43%
Sabo et al. [4]	X-sectional	1–26 years	46		<50 years	Proximal femur	–24.50%
Uebelhart et al. [33]	Prospective	>6 months	6			Lower extremity	–6.40%

Table 1 (continued)

Author	Type of study	Duration after injury	Males	Females	Age	Skeletal site measured	BMD (Z-score, SD or % loss or reduction of BMD)
Warden et al. [6]	Prospective	1–6 months	15		19–40 years	Calcaneus	–7.5±3.0%
						Proximal tibia	–5.3±4.2%
Zehnder et al. [34]	X-sectional		100		18–60 years		
		<1 year	16			Femoral neck	–0.03±0.25 SD
		<1 year	16			Tibia epiphysis	–0.34±0.22 SD
		1–9 years	38			Femoral neck	–1.65±0.17 SD
		1–9 years	38			Tibia epiphysis	–3.81±0.13 SD
		10–19 years	31			Femoral neck	–1.76±0.25 SD
		10–19 years	31			Tibia epiphysis	–4.00±0.21 SD
		20–29 years	13			Femoral neck	–1.76±0.28 SD
		20–29 years	13			Tibia epiphysis	–4.12±0.24 SD

Table 2 Superlesional bone mineral density in spinal cord-injured patients

Author	Type of study	Duration after injury	Males	Females	Age	Skeletal site measured	BMD (Z-score, SD or % loss or reduction of BMD)
Clasey et al. [23]	X-sectional	0.6–35.3 years	21	8	23–56 years	Upper extremity	+11.10%
Dauty et al. [10]	X-sectional	>1 year	20		18–60 years	Upper extremity	+6%
de Bruin et al. [30]	Prospective	3.5 years	9	1	19–81 years	Distal radius trabecular bone	–10~+14%
Demirel et al. [15]	X-sectional	2–30 months	32	9	19–49 years	Upper extremity	+0.09±0.15 SD
Finsen et al. [12]	X-sectional	7 months–33 years	19		15–64 years	Forearm distal diaphysis	–5%
						Forearm distal metaphysis	–13%
Frey-Rindova et al. [13]	Prospective	12 months	27	2	19–59 years	Radius trabecular bone	–8%
						Radius cortical bone	0%
						Ulna trabecular bone	–4%
						Ulna cortical bone	–1%
Sabo et al. [4]	X-sectional	1–26 years	46		<50 years	Distal forearm	–6.10%
Zehnder et al. [34]	X-sectional		100		18–60 years		
		<1 year	16			Ultradistal radius	+0.02±0.24 SD
		<1 year	16			Radius shaft 1/3	+0.00±0.41 SD
		1–9 years	38			Ultradistal radius	+0.01±0.15 SD
		1–9 years	38			Radius shaft 1/3	+0.40±0.17 SD
		10–19 years	31			Ultradistal radius	+0.52±0.20 SD
		10–19 years	31			Radius shaft 1/3	+0.97±0.20 SD
		20–29 years	13			Ultradistal radius	+0.44±0.32 SD
		20–29 years	13			Radius shaft 1/3	+0.27±0.31 SD

Table 3 Bone mineral density of lumbar spine in spinal cord-injured patients

Author	Type of study	Duration after injury	Males	Females	Age	BMD (Z-score, SD or % loss or reduction of BMD)
Clasey et al. [23]	X-sectional	0.6–35.3 years	21	8	23–56 years	2%
Dauty et al. [10]	X-sectional	>1 year	31		18–60 years	–11%
Garland et al. [8]	X-sectional	2–8 years		6	20–30 years	2%
		3–30 years		16	31–50 years	8.10%
		9–44 years		9	53–77 years	14.80%
Liu et al. [39]	X-sectional		64		20–98 years	–2.0±1.2 SD
Sabo et al. [4]	X-sectional	1–26 years	46		<50 years	–3.80%
Zehnder et al. [34]	X-sectional		100		18–60 years	
		<1 year	16			–0.43±0.19 SD
		1–9 years	38			+0.11±0.15 SD
		10–19 years	31			+1.09±0.23 SD
		20–29 years	13			+1.00±0.42 SD

Table 4 Fracture incidence in spinal cord-injury patients

Author	Type of study	Duration after injury	Males	Females	Age	Fracture incidence
Comarr et al. [48]	X-sectional		1,363 (total)			11%
Frisbie et al. [50]	X-sectional	21.1±12.1 years	120		20–79 years	33%
Ingram et al. [47]	X-sectional	>1 years	526 (total)		13–70 years	5%
Lazo et al. [5]	X-sectional	1.1–43.1 years	49		27–83 years	34%
Ragnarsson et al. [46]	X-sectional	9 years (mean)	578 (total)		4–71 years	4%
Vestergaard et al. [49]	X-sectional		309	129	17–80 years	2%/year
Zehnder et al. [34]	X-sectional		100		18–60 years	
		<1 year	16			1%/year
		1–9 years	38			1.3%/year
		10–19 years	31			3.4%/year
		20–29 years	13			4.6%/year