

STATEWIDE TRAUMA ADVISORY COMMITTEE

STAC

A Review of Superficial, Contusion, Frostbite and Electrical Injuries in the Trauma Registry for 2012



Colorado Department
of Public Health
and Environment

Prepared by Health and Safety Data Services
April 2014

Superficial, Contusion, Frostbite and Electrical Injuries – 2012

Colorado Trauma Registry

Colorado and Nationally Recognized Trauma ICD-9-CM Injury Diagnosis Codes 800 - 904.9 , 925 - 929.9, 940 - 959.9

Colorado Specific Injury Codes		Records	%
994.0	Effects of lighting	1	<0.01
994.8	Electrocution and nonfatal effects of electric current	1	<0.01
991.0 - 991.3	Frostbite	9	<0.05
910 - 924.9	Superficial injuries and contusions	713	2.6
Total	All records – Colorado Trauma Registry – 2012	26,932	100

Colorado Specific Superficial and Contusion Codes

		Records	%
910	Superficial injury of face neck and scalp except eye	49	6.9
911	Superficial injury of trunk	24	3.4
912	Superficial injury of shoulder and upper arm	8	1.1
913	Superficial injury of elbow forearm and wrist	14	2.0
914	Superficial injury of hand(s) except finger(s) alone	5	0.7
915	Superficial injury of finger(s)	3	0.4
916	Superficial injury of hip thigh leg and ankle	28	3.9
917	Superficial injury of foot and toe(s)	5	0.7
918	Superficial injury of eye and adnexa	6	0.8
919	Superficial injury of other multiple and unspecified sites	34	4.8
920	Superficial injury of face, scalp, and neck except eye(s)	105	14.7
921	Contusion of eye and adnexa	15	2.4
922	Contusion of trunk	191	26.8
923	Contusion of upper limb	42	5.9
924	Contusion of lower limb and of other and unspecified sites	182	25.5
Total	910-924	713	100

Colorado Specific Superficial and Contusion Codes

	Records	%
ISS Range		
1-4	707	99.2
5-8	1	0.1
. (blank)	5	0.7
	713	100
By Level		
Level I	211	26.6
Level II	134	18.8
Level III	368	51.6
	713	100
Inclusion By		
>12 hours admissions and/or transfer	613	86.0
Full team activations (retired 2012)	39	5.5
Floor, ICU, Telemetry, OR, Direct	33	4.6
Observation/Invalid entry	28	3.9
	713	100

Contact Us!

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of Public Health
and Environment

STATEWIDE TRAUMA ADVISORY COMMITTEE

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ORTHOPEDIC TRAUMA

Colorado Hospital Discharge

Colorado Trauma Registry



Colorado Department
of Public Health
and Environment

Prepared by Health and Safety Data Services
April 2014

Fracture of Other and Unspecified Parts of Femur – 2008-2012

	# records		# records
Trauma Registry Data	4,211	Hospital Discharge Data	5,105
Avg. Age of Patient 46		Avg. Age of Patient 51	
Male 50% Female 50%		Male 47% Female 53%	
Avg. Injury Severity Score (ISS)	9.9		
Avg. Length of Stay		Avg. Length of Stay	
Inpatients (in days) 5		Inpatients (in days) 6	
Transfers (in hours) 3			

Fracture of other and unspecified part of femur as defined by a diagnosis code of 821
(dx1 in Trauma Registry; dx1-dx6 in Hospital Discharge)
Prepared by Health & Safety Data Services, April 2014

Fracture of Other and Unspecified Parts of Femur – 2008-2012

Trauma Registry Data n = 4,211				Hospital Discharge Data n = 5,105			
Top 10 Procedures Performed 56% of all procedures	# proc	#rcd	%rcd	Top 10 Procedures Performed 53% of all procedures	# proc	#rcd	%rcd
Skel xray-thigh/knee/leg	1973	1536	36	Open red. of fracture with internal fixation, femur	2560	2503	49
Open reduction of fracture w/ internal fixation, femur	1306	1288	31	Transfusion of packed cells	1710	1572	31
Other C.A.T. scan	1210	848	20	Closed red. of fracture with internal fixation, femur	1153	1134	22
Skel xray-pelvis/hip NEC	797	680	16	Venous catheterization, not elsewhere classified	393	365	7
Application of splint	786	692	16	Closed red. of fracture without internal fixation, femur	339	333	7
Routine chest x-ray	723	695	17	Debridement open fx site, femur	319	277	5
C.A.T. scan of head	612	593	14	Internal fixation of bone w/o fracture reduction, femur	314	305	6
Comprehensive consultat	609	354	8	Closure of skin and subcutaneous tissue of other sites	309	280	5
Closed reduction of fracture w/ internal fixation, femur	583	580	14	Open red. of fracture w/ internal fixation, tibia and fibula	258	222	4
Insertion of indwelling urinary catheter	428	420	10	Removal of implanted devices from bone, femur	246	240	5

Fracture of Other and Unspecified Parts of Femur – 2008-2012

Trauma Registry Data			Hospital Discharge Data		
Records By Trauma Designation Level	# rcd	% rcd	Records By Trauma Designation Level	# rcd	% rcd
Level I (4 hospitals)	1371	32.6	Level I (4 hospitals)	1293	25.3
Level II (10 hospitals)	1450	34.4	Level II (9 hospitals)	1659	32.5
Level III (19 hospitals)	1390	33.0	Level III (19 hospitals)	1404	27.5
Total (33 hospitals)	4211	100	Level IV (24 hospitals)	504	9.9
			Non-designated (10 hospitals)	245	4.8
			Total (66 hospitals)	5105	100

Fracture of Other and Unspecified Part of Femur – 2008-2012

Trauma Registry Data –4,211 records

	# records by trauma designation level				% records by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
ED dispositions								
OR	283	369	418	1070	20.6	25.5	30.1	25.4
ICU/Telemetry	128	68	29	225	9.3	4.7	2.1	5.3
Transfer (out)	28	130	184	342	2.0	9.0	13.2	8.1
Other*	932	883	759	2574	68.1	60.8	54.6	61.1
Total	1371	1450	1390	4211	100	100	100	100
Inpatient Deaths	10	22	11	43	0.7	1.5	0.8	1.0

*Other = sum of direct, other, observation, floor, returning home, and dead on arrival

Fracture of Other and Unspecified Part of Femur – 2008-2012

Trauma Registry Data –4,211 records

	# records by trauma designation level				% records by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
Transfers-in from								
643 records unk								
Level I	3	0	1	4	2.2	0.0	2.3	1.7
Level II	9	3	5	17	6.7	4.8	11.4	7.1
Level III	19	8	9	36	14.1	12.9	20.5	14.9
Level IV	24	25	14	63	17.8	40.3	31.8	26.1
Nondesignated	30	18	10	58	22.2	29.0	22.7	24.1
Other in-state	28	4	4	36	20.7	6.5	9.1	14.9
Other out-of-state	22	4	1	27	16.3	6.5	2.3	11.2
Total	135	62	44	241	100	100	100	100

Fracture of Other and Unspecified Part of Femur – 2008-2012

Trauma Registry Data –4,211 records

	# records by trauma designation level				% records by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
Referring admission type								
Only seen in the ED	458	208	173	839	94.8	95.0	95.1	94.9
Admitted as an inpatient	25	11	9	45	5.2	5.0	4.9	5.1
Total	483	219	182	884	100	100	100	100

	# records by trauma designation level				% records by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
Interfacility transfer mode								
Ground ambulance	378	187	175	740	78.3	85.4	95.6	83.6
Helicopter	46	19	3	68	9.5	8.7	1.6	7.7
Wing	39	13	2	54	8.1	5.9	1.1	6.1
Personal vehicle	20	0	3	23	4.1	0	1.6	2.6
Total	483	219	183	885	100	100	100	100

Fracture of Other Specified Parts of Pelvis – 2008-2012

	# rcd		# rcd
Trauma Registry Data	648	Hospital Discharge Data	1096
Avg. Age of Patient 51		Avg. Age of Patient 57	
Male 57% Female 43%		Male 51% Female 49%	
Average Injury Severity Score (ISS) 14.8			
Avg. Length of Stay		Avg. Length of Stay	
Inpatients (in days) 7		Inpatients (in days) 8	
Transfers (in hours) 3.5			

Fracture of specified part of pelvis as defined by a diagnosis code of 808.4 and 808.5
(Open and closed fractures of ilium, ischium; multiple pelvic fractures w/ w/o disruption of pelvic circle)
dx1 in Trauma Registry; dx1-dx6 in Hospital Discharge
Prepared by Health & Safety Data Services, April 2014

Fracture of Other Specified Parts of Pelvis – 2008-2012

Trauma Registry Data n = 648				Hospital Discharge Data n = 1,096			
Top 10 Procedures Performed 52% of all procedures	#proc	# rcd	% rcd	Top 10 Procedures Performed 34% of all procedures	#proc	#rcd	%rcd
Other C.A.T. scan	430	276	43	Transfusion of packed cells	173	169	15
C.A.T. scan of abdomen	237	216	33	Opn fx red w int fix NEC	172	154	14
Skel xray-pelvis/hip NEC	197	163	25	Closure skin and subcutaneous tissue of other sites	103	99	9
C.A.T. scan of head	164	161	25	Venous catheterization, not elsewhere classified	97	86	8
C.A.T. scan of thorax	149	148	23	Insertion of indwelling urinary catheter	62	62	6
Routine chest x-ray	93	87	13	Insertion of endotracheal tube	61	60	5
Transfusion of packed cells	92	74	11	Cont. invasive mech. ventilation for <96 consec. hrs	59	58	5
Opn fx red w int fix NEC	91	78	12	Insert intercostal cath	48	45	4
Dx ultrasound-abdomen	82	81	13	Cont. invasive mech. ventilation for >=96 consec. hrs	47	46	4
Insertion of endotracheal tube	73	62	10	Applic ext fix dev NEC	45	42	4

Fracture of Other Specified Parts of Pelvis – 2008-2012

Trauma Registry Data			Hospital Discharge Data		
By Trauma Designation Level	# rcd	% rcd	By Trauma Designation Level	# rcd	% rcd
Level I (4 hospitals)	242	37.4	Level I (4 hospitals)	327	29.8
Level II (10 hospitals)	214	33.0	Level II (9 hospitals)	386	35.2
Level III (19 hospitals)	192	29.6	Level III (19 hospitals)	237	21.6
Total (33 hospitals)	648	100	Level IV (26 hospitals)	100	9.1
			Non-designated (7 hosps)	46	4.2
			Total (65 hospitals)	1096	100

Fracture of Other Specified Part of Pelvis – 2008-2012

Trauma Registry Data –648 records

	# records by trauma designation level				% records by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
ED dispositions								
OR	54	24	9	87	22.3	11.2	4.7	13.4
ICU/Telemetry	79	43	21	143	32.7	20.1	10.9	22.1
Transfer (out)	0	24	50	74	0.0	11.2	26.0	11.4
Other*	109	123	112	344	45.0	57.5	58.4	53.1
Total	242	214	192	648	100	100	100	100
Inpatient Deaths	18	5	2	25	7.4	2.3	1.0	3.9

*Other = sum of direct, other, observation, floor, returning home, and dead on arrival

Fracture of Other Specified Part of Pelvis – 2008-2012

Trauma Registry Data –648 records

	# records by trauma designation level				% records by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
Transfers-in from (65 records unk)								
Level I	1	0	0	1	2.1	0.0	0.0	1.3
Level II	2	1	1	4	4.3	4.3	12.5	5.1
Level III	13	2	0	15	27.7	8.7	0.0	19.2
Level IV	12	9	1	22	25.5	3.9	12.5	28.2
Nondesignated	14	8	3	25	29.8	34.8	37.5	32.1
Other in-state	1	2	2	5	2.1	8.7	25.0	6.4
Other out-of-state	4	1	1	6	8.5	4.3	12.5	7.7
Total	47	23	8	78	100	100	100	100

Fracture of Other Specified Part of Pelvis – 2008-2012

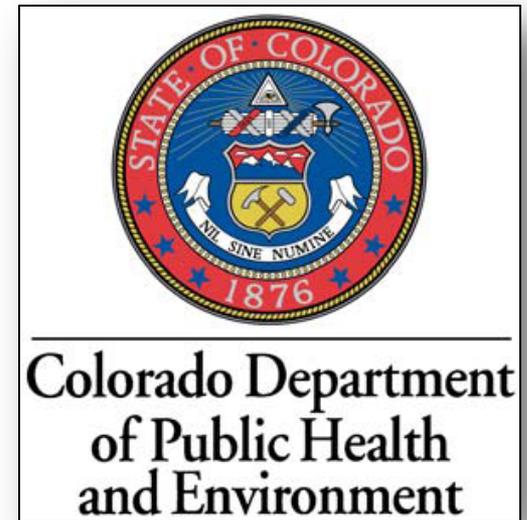
Trauma Registry Data –648 records

	# records by trauma designation level				% records by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
Referring admission type								
Only seen in the ED	87	32	11	130	87.9	97.0	100.0	90.9
Admitted as an inpatient	12	1	0	13	12.1	3.0	0.0	9.1
Total	99	33	11	143	100	100	100	100

	# records by trauma designation level				% records by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
Interfacility transfer mode								
Ground ambulance	35	21	9	65	35.4	63.6	81.8	45.5
Helicopter	32	8	1	41	32.3	24.2	9.1	28.7
Wing	32	4	0	36	32.3	12.1	0.0	25.2
Personal vehicle	0	0	1	1	0.0	0.0	9.1	0.7
Total	99	33	11	143	100	100	100	100

Contact Us!

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Fracture of Neck of Femur – 2008-2012

	# records		# records
Trauma Registry Data	15,492	Hospital Discharge Data	22,150
Avg. Age of Patient 77		Avg. Age of Patient 77	
Male 35% Female 65%		Male 34% Female 66%	
Avg. Injury Severity Score (ISS)	9.3		
Avg. Length of Stay		Avg. Length of Stay	
Inpatients (in days)	5	Inpatients (in days)	5
Transfers (in hours)	5		

Fracture of neck of femur as defined by a diagnosis code of 820
 dx1 in Trauma Registry; dx1-dx6 in Hospital Discharge
 Prepared by Health & Safety Data Services, April 2014

Fracture of Neck of Femur – 2008-2012

Trauma Registry Data n = 15,492	# procs	# rcd	% rcd	Hospital Discharge Data n = 22,150	# procs	# rcd	% rcd
Top 10 Procedures Performed 63% of all procs				Top 10 Procedures Performed 74% of all procs			
Skel xray-pelvis/hip NEC	5639	4240	27	Transfusion of packed cells	7945	7364	33
Routine chest x-ray	3713	3501	23	Closed reduction of fracture with internal fixation, femur	6081	6054	27
Open reduction of fracture with internal fixation, femur	3629	3610	23	Partial hip replacement	5863	5861	26
Other C.A.T. scan	2488	2049	13	Open reduction of fracture with internal fixation, femur	5689	5644	25
Insertion of indwelling urinary catheter	2477	2367	15	Internal fixation of bone w/o fracture reduction, femur	1658	1648	7
Closed reduction of fracture with internal fixation, femur	2324	2314	15	Insertion of indwelling urinary catheter	1392	1383	6
C.A.T. scan of head	2317	2239	14	Transfusion of other serum	1181	1094	5
Partial hip replacement	2040	2040	13	Venous catheterization, not elsewhere classified	1096	1023	5
Skel xray-thigh/knee/leg	1821	1621	10	Total hip replacement	675	675	3
Venous catheterization, not elsewhere classified	1543	1067	7	Closure of skin and subcutaneous tissue of other sites	433	417	2

Fracture of Neck of Femur – 2008-2012

Trauma Registry Data

By Trauma Designation Level	# rcd	% rcd
Level I (4 hospitals)	2,888	18.6
Level II (10 hospitals)	6,178	39.9
Level III (19 hospitals)	6,426	41.5
Total (33 hospitals)	15,492	100

Hospital Discharge Data

By Trauma Designation Level	# rcd	% rcd
Level I (4 hospitals)	2,644	11.9
Level II (9 hospitals)	7,106	32.1
Level III (19 hospitals)	7,865	35.5
Level IV (30 hospitals)	2,549	11.5
Non-designated (10 hospitals)	1,986	9.0
Total (72 hospitals)	22,150	100

Fracture of Neck of Femur – 2008-2012

Trauma Registry Data – 15,492 records

	# records by trauma designation level				% records by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
ED dispositions								
OR	176	659	650	1,485	6.1	10.7	10.1	9.6
ICU/Telemetry	372	187	186	745	12.9	3.0	2.9	4.8
Transfer (out)	55	144	227	426	1.9	2.3	3.5	2.8
Other*	2,285	5,188	5,363	12,826	79.1	84.0	83.5	82.8
Total	2,888	6,178	6,426	15,492	100	100	100	100
Inpatient Deaths	68	116	125	309	2.4	1.9	1.9	2.0

*Other = sum of direct, other, observation, floor, returning home, dead on arrival

Fracture of Neck of Femur – 2008-2012

Trauma Registry Data – 15,492 records

	<u># rcd by trauma designation level</u>				<u>% rcd by trauma designation level</u>			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
Transfers-in from (1,395 records unk)								
Level I	3	2	2	7	3.8	2.0	1.6	2.3
Level II	6	6	8	20	7.5	6.1	6.5	6.6
Level III	14	13	14	41	17.5	13.3	11.4	13.6
Level IV	18	31	24	73	22.5	31.6	19.5	24.3
Nondesigned	19	29	17	65	23.8	29.6	13.8	21.6
Other in-state	9	14	52	75	11.3	14.3	42.3	24.9
Other out-of-state	11	3	6	20	13.8	3.1	4.9	6.6
Total	80	98	123	301	100	100	100	100

Fracture of Neck of Femur – 2008-2012

Trauma Registry Data – 15,492 records

	# rcd by trauma designation level				% rcd by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
Referring admission type								
Only seen in the ED	359	618	615	1592	94.2	93.8	93.8	93.9
Admitted inpatient	22	41	41	104	5.8	6.2	6.2	6.1
Total	381	659	656	1696	100	100	100	100

	# rcd by trauma designation level				% rcd by trauma designation level			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
Interfacility transfer mode								
Ground ambulance	321	609	634	1564	84.0	92.4	96.4	92.1
Helicopter	25	22	5	52	6.5	3.3	0.8	3.1
Wing	31	18	8	57	8.1	2.7	1.2	3.4
Personal vehicle	5	10	11	26	1.3	1.5	1.7	1.5
Total	382	659	658	1699	100	100	100	100