INJURIES, BY ANATOMIC REGION

Case Definition for AFHSC Installation Injury Report

Background

This case definition was developed in June of 2001 by a working group from the Army Medical Surveillance Activity (AMSA), now the Armed Forces Health Surveillance Center, in collaboration with representatives from the Injury Prevention Program at the Army Institute of Public Health (AIPH), formerly the US Army Center for Health Promotion and Preventive Medicine (CHPPM), and with input from the Department of Defense Military Injury Metrics Working Group. The group developed this definition for a monthly installation-specific injury surveillance report designed to give installation commanders and their staffs insight into the natures and relative impacts of injuries at their installations.[1]

Clinical Description

Injuries and musculoskeletal conditions are the single leading cause of deaths, disabilities, hospitalizations, outpatient visits, and manpower losses among military service members. They adversely affect the health of service members and troop readiness more than any other single diagnosis.[2] The leading types of injury for the Army include ankle fractures, intracranial injury, fracture of face bones, sprains and strains of the knee, dislocation of the knee, fracture of the radius and ulna, fracture of one or more fingers, and open wounds of the fingers.

Case Definition and Incidence Rules

For surveillance purposes, an injury is defined as:

- *One hospitalization* with any of the defining diagnoses of injury (see ICD9 code list below) in *any* diagnostic position.

- *One outpatient medical encounter* with any of the defining diagnoses of injury (see ICD9 code list below) in *any* diagnostic position.

Incidence rules:

For individuals who meet the case definition:

- An individual can have *one injury per anatomic region every 60 days* (see Code table below for specific anatomic regions).

- The incidence date is considered the date of the first hospitalization or outpatient medical encounter that includes one of the defining diagnoses of injury.

Exclusions:

- None

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[1] Army Medical Surveillance Activity. Monthly Installation Injury Surveillance Reports: Surveillance of Injuries and their Impacts at the Installation Level, US Armed Forces. *Medical Surveillance Monthly Report (MSMR).* 2001September/October ; 7(8): 7-10.

[2] Jones, BH, Perotta, DM, Canham-Chervak, ML, Nee, MA, and Brundage, JF. *Injuries in the military: A review and commentary focused on prevention.* Am J Prev Med. 2000 April; 18(3 Suppl): 71-84.

Codes

The following ICD9 codes are included in the case definition[3]:

Anatomic Regions	ICD-9-CM codes
Head and Neck Injuries	363.61, 363.63, 364.04, 364.41, 364.76, 364.77, 365.65, 366.20, 379.32, 379.33, 379.34, 525.11, 722.0, 722.71, 723.1, 723.4, 800, 801, 802, 803, 804, 805.0, 805.1, 806.0, 806.1, 807.5, 807.6, 830, 839.0, 839.1, 847.0, 848.0, 848.1, 848.2, 850, 851, 852, 853, 854, 870, 871, 872, 873, 874, 900, 910.0, 910.1, 910.2, 910.3, 910.6, 910.7, 910.8, 910.9, 918, 920, 921, 925, 930, 931, 932, 933, 935.0, 940, 941, 947.0, 950, 951, 952.0, 953.0, 954.0, 957.0, 959.0
Shoulder and Arm Injuries	354.1, 354.2, 354.3, 716.11, 716.12, 716.13, 718.01, 718.02, 718.03, 718.11, 718.12, 718.13, 718.31, 718.32, 718.33, 718.81, 718.82, 718.83, 718.91, 718.92, 718.93, 719.01, 719.02, 719.03, 719.11, 719.12, 719.13, 719.41, 719.42, 719.43, 726.0, 726.1, 726.2, 726.3, 727.61, 727.62, 733.11, 810, 811, 812, 813, 818, 831, 832, 840, 841, 880, 881.00, 881.01, 881.10, 881.11, 881.20, 881.21, 887, 903.0, 903.1, 912.0, 912.1, 912.2, 912.3, 912.6, 912.7, 912.8, 912.9, 923.0, 923.1, 927.0, 927.1, 943, 953.4, 955.0, 955.1, 955.2, 955.3, 955.4, 955.5, 955.7, 955.8, 955.9, 959.2
Hand and Wrist Injuries	354.0, 716.14, 718.04, 718.14, 718.34, 718.84, 718.94, 719.04, 719.14, 719.44, 726.4, 727.63, 727.64, 733.12, 814, 815, 816, 817, 833, 834, 842, 881.02, 881.12, 881.22, 882, 883, 885, 886, 903.4, 903.5, 914.0, 914.1, 914.2, 914.3, 914.6, 914.7, 914.8, 914.9, 915.0, 915.1, 915.2, 915.3, 915.6, 915.7, 915.8, 915.9, 923.2, 923.3, 927.2, 927.3, 944, 955.6, 959.4, 959.5
Leg Injuries	716.15, 716.16, 718.05, 718.15, 718.35, 718.85, 718.95, 719.05, 719.15, 719.45, 726.5, 727.65, 733.14, 733.15, 733.93, 808.0, 808.1, 820, 821, 823, 835, 843, 844.3, 890, 897, 904.0, 904.1, 904.2, 904.3, 904.5, 924.0, 924.10, 928.0, 928.10, 945.00, 945.04, 945.06, 945.09, 945.10, 945.14, 945.16, 945.19, 945.20, 945.24, 945.26, 945.29, 945.30, 945.34, 945.36, 945.39, 945.40, 945.44, 945.46, 945.49, 945.50, 945.54, 945.56, 945.59, 956, 959.6
Knee Injuries	717, 718.36, 718.86, 719.06, 719.16, 719.46, 726.6, 727.66, 822, 836, 844.0, 844.1, 844.2, 924.11, 928.11, 945.05, 945.15, 945.25, 945.35, 945.45, 945.55
Ankle and Foot Injuries	716.17, 718.07, 718.17, 718.37, 718.87, 718.97, 719.07, 719.17, 719.47, 726.7, 727.67, 727.68, 728.71, 733.94, 734, 824, 825, 826, 837, 838, 845, 892, 893, 895, 896, 904.6, 917.0, 917.1, 917.2, 917.3, 917.6, 917.7, 917.8, 917.9, 924.2, 924.3, 928.2, 928.3, 945.01, 945.02, 945.03, 945.11, 945.12, 945.13, 945.21, 945.22, 945.23, 945.31, 945.32, 945.33, 945.41, 945.42, 945.43, 945.51, 945.52, 945.53 *(continued on next page)*

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[3] A one page summary of the ICD9 codes used for the Installation Injury Report is available on the AFHSC website at: http://www.afhsc.mil/viewInjury?file=Online_documentation_20041022.pdf. As of May 2011, the codes listed in the online code set are consistent with the codes in this case definition.

Chest, Back, and Abdomen Injuries	720.2, 721.7, 722.1, 722.72, 722.73, 724.2, 724.3, 724.4, 724.5, 724.9 , 733.13, 805.2, 805.3, 805.4, 805.5, 805.6, 805.7, 806.2, 806.3, 806.4, 806.5, 806.6, 806.7, 807.0, 807.1, 807.2, 807.3, 807.4, 808.2, 808.3, 808.4, 808.5, 808.8, 808.9, 809, 839.2, 839.3, 839.41, 839.42, 839.51, 839.52, 839.61, 839.71, 846, 847.1, 847.2, 847.3, 847.4, 847.9, 848.3, 848.4, 848.5, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 875, 876, 877, 878, 879.0, 879.1, 879.2, 879.3, 879.4, 879.5, 879.6, 879.7, 901, 902, 911.0, 911.1, 911.2, 911.3, 911.6, 911.7, 911.8, 911.9, 922, 926, 934, 935.1, 935.2, 936, 937, 938, 939, 942, 947.1, 947.2, 947.3, 947.4, 952.1, 952.2, 952.3, 952.4, 953.1, 953.2, 953.3, 953.5, 954.1, 954.8, 954.9, 959.1, 959.11, 959.12, 959.19
Environmental Injuries	363.31, 370.24, 388.10, 388.11, 388.12, 692.71, 692.76, 692.77, 910.4, 910.5, 911.4, 911.5, 912.4, 912.5, 913.4, 913.5, 914.4, 914.5, 915.4, 915.5, 916.4, 916.5, 917.4, 917.5, 919.4, 919.5, 990, 991, 992, 993, 994
Unspecified Injuries	716.10, 716.18, 716.19, 718.00, 718.08, 718.09, 718.10, 718.18, 718.19, 718.30, 718.38, 718.39, 718.80, 718.88, 718.89, 718.90, 718.98, 718.99, 719.00, 719.08, 719.09, 719.10, 719.18, 719.19, 719.40, 719.48, 719.49, 722.2, 722.70, 726.8, 726.9, 727.2, 727.3, 727.60, 727.69, 728.83, 729.1, 729.2, 733.10, 733.16, 733.19, 733.95, 805.8, 805.9, 806.8, 806.9, 819, 827, 828, 829, 839.40, 839.49, 839.50, 839.59, 839.69, 839.79, 839.8, 839.9, 844.8, 844.9, 848.8, 848.9, 879.8, 879.9, 884, 891, 894, 903.2, 903.3, 903.8, 903.9, 904.4, 904.7, 904.8, 904.9, 913.0, 913.1, 913.2, 913.3, 913.6, 913.7, 913.8, 913.9, 916.0, 916.1, 916.2, 916.3, 916.6, 916.7 , 916.8, 916.9, 919.0, 919.1, 919.2, 919.3, 919.6, 919.7, 919.8, 919.9, 923.8, 923.9, 924.4, 924.5, 924.8, 924.9, 927.8, 927.9, 928.8, 928.9, 929, 946, 947.8, 947.9, 948, 949 , 952.8, 952.9, 953.8, 953.9, 957.1, 957.8, 957.9, 959.13, 959.14, 959.3, 959.7, 959.8, 959.9, 995.81, 995.83, 995.85

Development and Revisions

- In 2004 the case definition was reviewed by AMSA and the ICD9 code list updated to be consistent with changes to the ICD9 code manual.

- The original case definition was developed in June of 2001 by an AMSA working group in collaboration with representatives from the Injury Prevention Program at CHPPM and with input from a DoD Military Injury Metrics Working Group. The case definition was developed based on results of Army injury field investigations, reviews of the ICD9 codes and the scientific literature.

Case Definition and Incidence Rule Rationale

- The incidence rule of one injury per category per 60 days is used because recovery from most injuries is usually achieved within this time frame. In addition, the DoD Military Injury Metrics Working Group conducted analyses of medical ambulatory data and found that, of all follow-up visits that occurred within 90 days after an injury, only 2.25% took place after 60 days.[4]

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[4] DoD Military Injury Metrics Working Group White Paper, November 2002; Appendix G: Justification Data for 30 Day Threshold. Available online at: http://www.ergoworkinggroup.org/ewgweb/SubPages/ProgramTools/Metrics/Metrics.htm

Code Set Determination and Rationale

- For the purpose of this report, ICD9 codes were selected to indicate "acute traumatic, repetitive stress, or environmental injuries or their direct sequelae.[1]

- The ICD9 codes do not specify laterality (right or left side) of the injury. Therefore, there is a potential for underreporting if a Service member sustains separate injuries to the same body part on the left and right side in the same 60 day period. For example, if a Service member injures his right knee and meets the case definition, a subsequent injury to the left knee within 60 days of the right sided injury would not be recorded as a new occurrence.

Reports

Using the above case definition, AFHSC reports on injuries in the following reports:

- Monthly: AFHSC Installation Injury Report; reports total incident injuries by anatomic region.

- Annually: U.S. Army Annual Injury Epidemiology Report; reports total incident injuries by anatomic region. Report case definition uses diagnoses in the *primary* diagnostic position only.

Review

June 2011   Case definition reviewed and adopted by Surveillance Methods and Standards (SMS) working group.

Comments

None