

**US ARMY
ACTIVE DUTY
EYE INJURY SUMMARY
CALENDAR YEAR 2015**

Approved for public release, distribution unlimited

2015



INTRODUCTION: In 2010 the Armed Forces Health Surveillance Center (AFHSC) and Tri-Service Vision Conservation and Readiness Program (TSVCRP) of the Army Public Health Center (APHC) began development of an Annual Active Duty Military Eye Injury Summary that would detail cause and type of injury along with demographics of eye injuries (Age, Gender, Rank, Occupational Group).

The first edition of the summary and annual summaries back through calendar year 2000, were produced in the spring of 2011. An analysis of years 2000-2010 was published in the May 2011 Medical Surveillance Monthly Report (MSMR). The AFHSC also developed a Case Definition for Eye Injuries that details the code set and methodology used to develop the summaries. Both the MSMR Article and Case Definition for Eye Injuries are available on the AFHSC website: <http://afhsc.army.mil/home>.

This summary contains detailed data, along with a set of summary tables detailing Ambulatory and Hospitalization rates (per 1000 person-years) for Injury Group, Cause of Injury and Occupational Group. Summary tables for Deployment-Associated Eye Injuries detailing frequency of Eye Injuries by Type of Injury and Occupational Group are also provided. Occupational Group data is for Enlisted members only. Deployment-Associated Eye Injuries are presented without regard to Ambulatory or Hospitalized status.

As one of the underlying goals of the summary is to make eye injury surveillance data accessible and useable, individual annual eye injury summaries for all years and all services (Combined DoD, Army, Navy, Air Force, Marine Corps and Coast Guard) are posted on the APHC public website.

For questions or additional information regarding the summaries please contact the TSVCRP:

By Email: usarmy.apg.medcom-phc.mbx.dcpm-tri-service-optometry@mail.mil

Telephone: 410-436-1002 FAX: 410-436-4117

Additional program information and educational materials can be found on the APHC Public Website at: <http://phc.amedd.army.mil/Pages/default.aspx>

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CY 2015 US ARMY ACTIVE DUTY (AD) EYE INJURY SUMMARY

INJURY CODE GROUP DETAILS: The following code groupings were used to develop the summary. ICD-9 coding was replaced by ICD-10 in October and this report represents the combination of both.

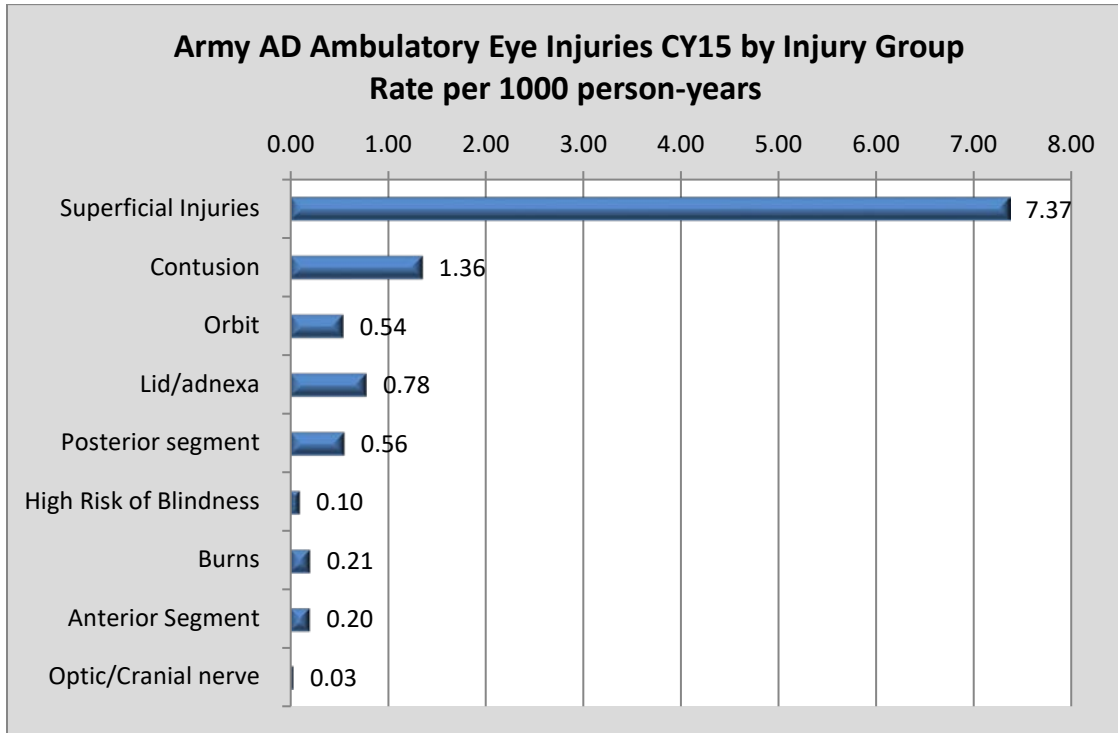
Additional details may be found in the AFHSC Case Definition available at: <http://afhsc.army.mil/home>.

- 1) **Superficial:** ICD-9: all 918 series codes (superficial injury of eye and adnexa) and all 930 series codes (foreign body on external eye). ICD-10: S00.2xx series codes (abrasions, blisters, bites, and injury to the conjunctiva, eyelid, or periocular area)
- 2) **Contusion:** ICD-9: all 921 series codes (contusion of eye and adnexa). ICD-10: S00.1xx series codes (contusion of the eyelids) and S05.1xx series (contusion of the eyeball and orbital tissues)
- 3) **Orbit:** ICD-9: All 802 series codes (fracture of face bones), 870.3 and 870.4 (penetrating wound of orbit without and with foreign body) and 376.32 (orbital hemorrhage). ICD-10: S02.3xx/S02.9xx series codes (fracture of orbital floor) and S05.4xx series (penetrating wound of orbit)
- 4) **Lid/adnexa:** ICD-9: all 870 series codes (open wound of ocular adnexa) with the exception of 870.3 and 870.4 (see orbit above). ICD-10: S01.1xx series codes (laceration, puncture, and bite of the eyelid or periocular area)
- 5) **Posterior segment:** ICD-9: 362.81 (retinal hemorrhage), all 361.0x series codes (retinal detachment with retinal defect), 363.61 (choroidal hemorrhage, unspecified), 363.63 (choroidal rupture), 379.23 (vitreous hemorrhage), 360.00 and 360.01 (purulent and acute endophthalmitis). ICD-10: H31.3xx series codes (choroidal hemorrhage/rupture), H33.0xx series (retinal detachments), H35.6x series (retinal hemorrhage), H43.1x series (vitreous hemorrhage), H44.00x series (purulent enophthalmitis)
- 6) **High risk of blindness:** ICD-9: all 871 series codes (open wound of eyeball). ICD-10: S05.xxx series codes (ocular laceration, penetrating wound, and avulsion of the eye)
- 7) **Burns:** ICD-9: all 940 series codes (burn confined to eye and adnexa) as well as all 940.x2 codes (burns to eye with other parts of face, head and neck). ICD-10: S05.xxx series codes (ocular laceration, penetrating wound, and avulsion of the eye)
- 8) **Anterior segment:** ICD-9: 364.41 (hyphema), 366.21 and 366.22 (localized and total traumatic cataract), and 364.76 (iridodialysis). ICD-10: H21.xxx series codes (hyphema and iridodialysis) and H26.1xx series (traumatic cataract)
- 9) **Optic/cranial nerve:** ICD-9: 950.0 (optic nerve injury), 950.1 (injury to optic chiasm), 950.9 (injury to optic nerve and pathways, unspecified), 951.0 (injury to oculomotor nerve), 951.1 (injury to trochlear nerve) and 951.3 (injury to abducens nerve). ICD-10: S04.xxx series codes (injury of the optic, oculomotor, trochlear, and abducent nerves)

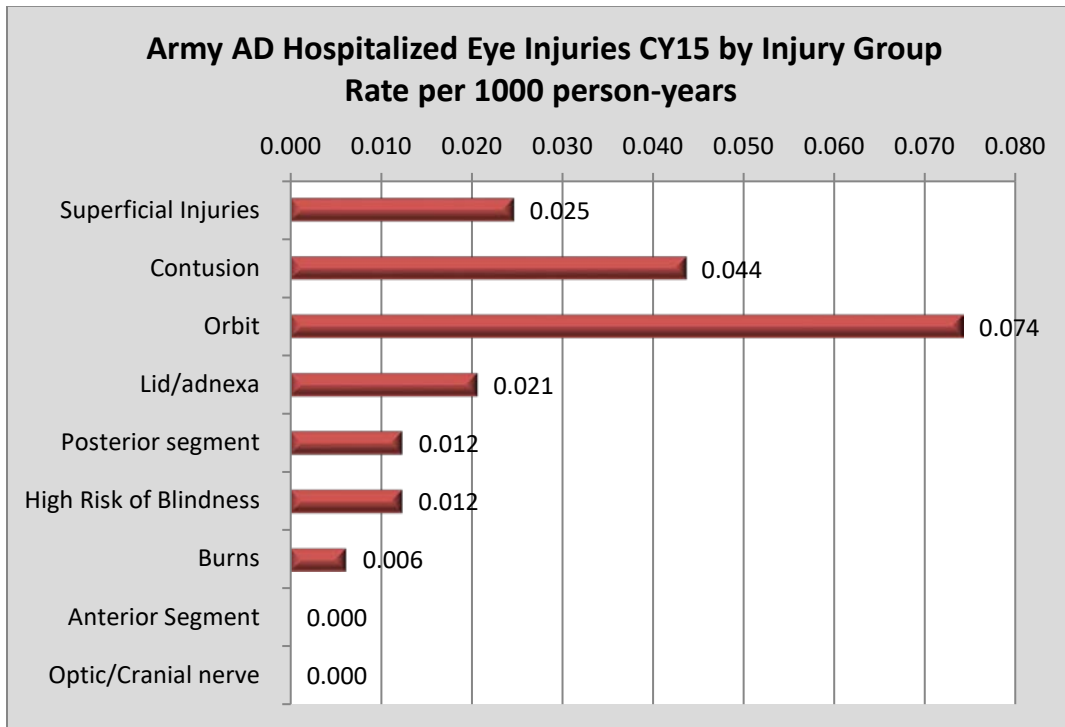
DETAILS FOR TOTAL NUMBERS: Because patients may have been coded with more than one injury group or cause of injury, the sum of cases by injury group and the sum of cases by causes of injury will be greater than the total number of patients.

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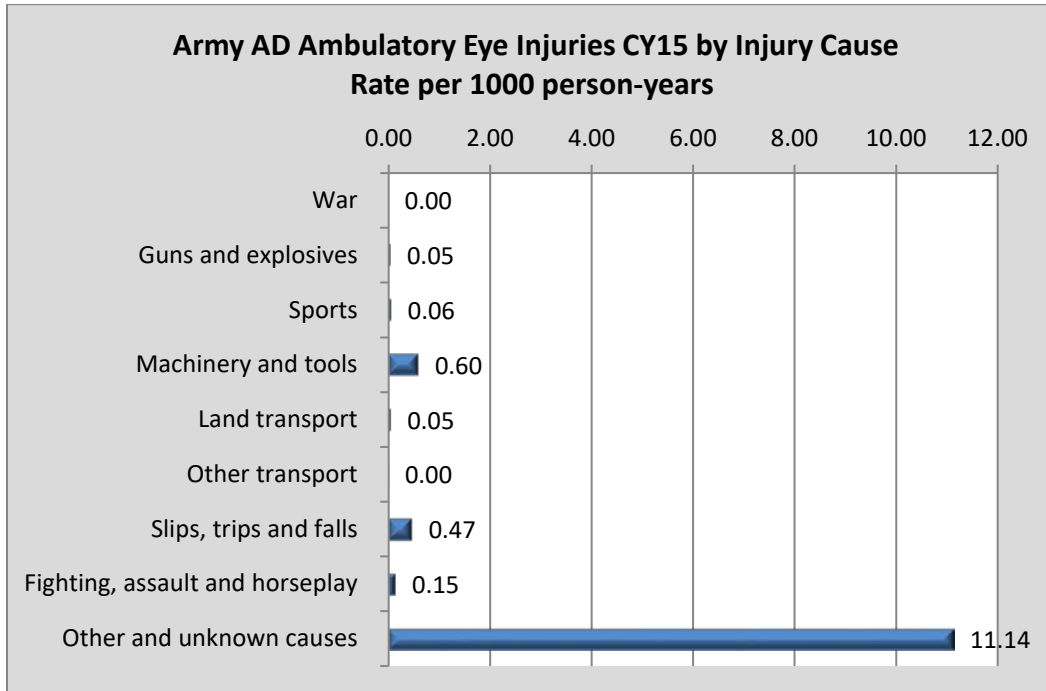
Please note the difference in scale between Ambulatory and Hospitalized graphs



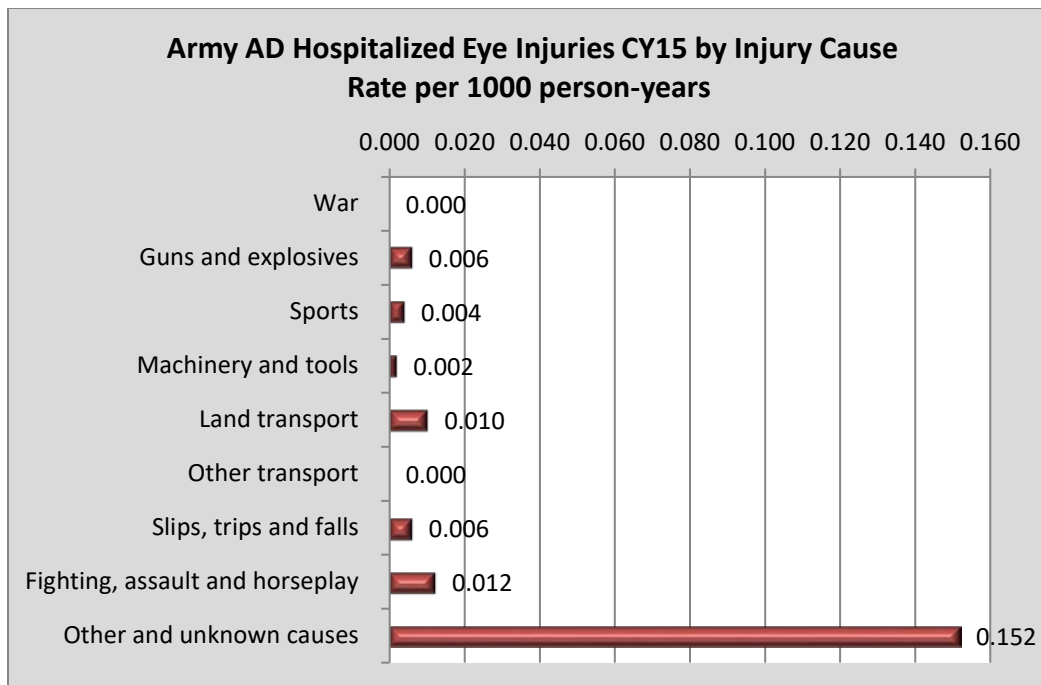
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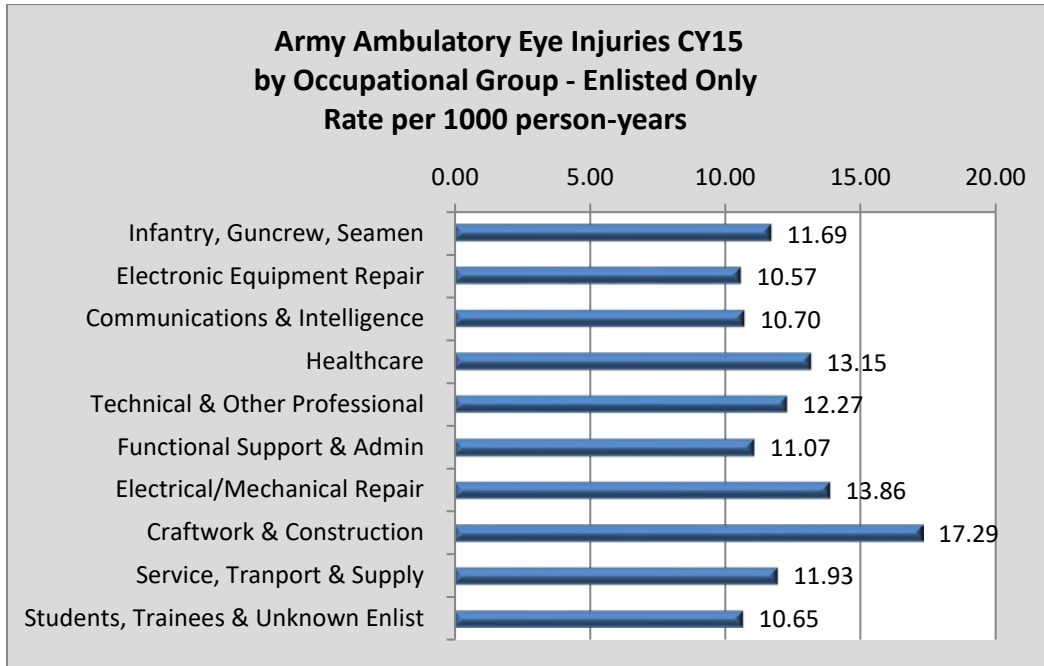
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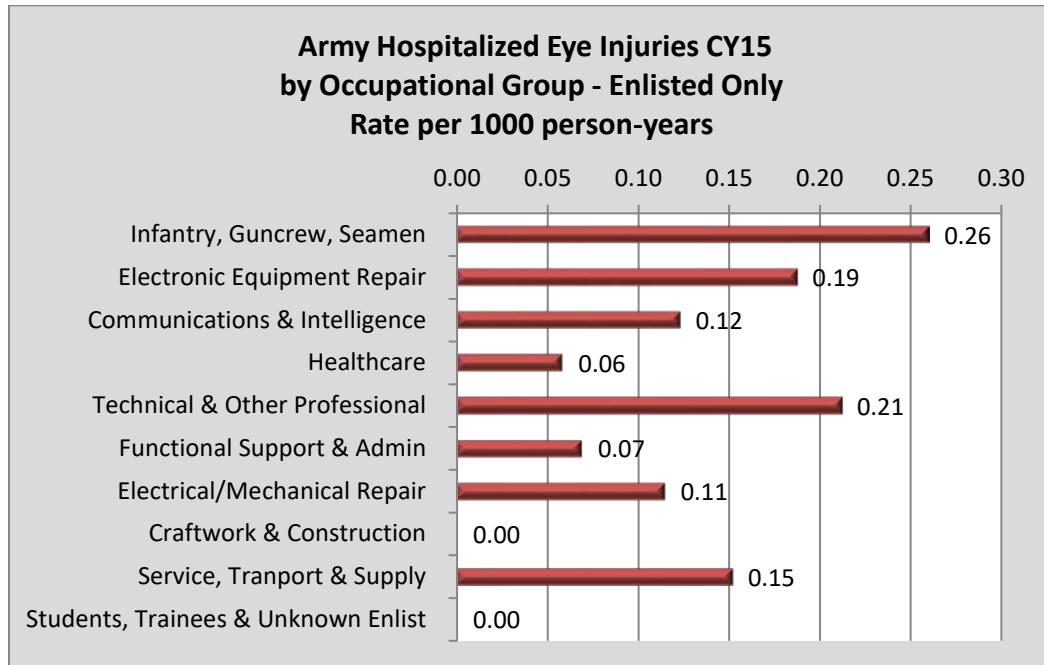
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Please note the difference in scale between Ambulatory and Hospitalized graphs

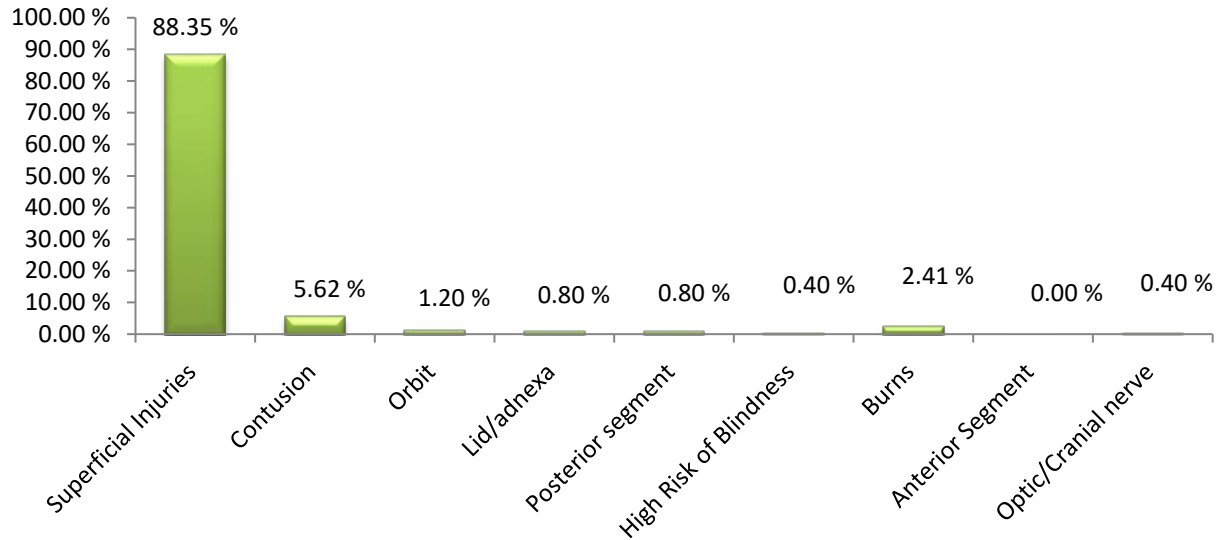


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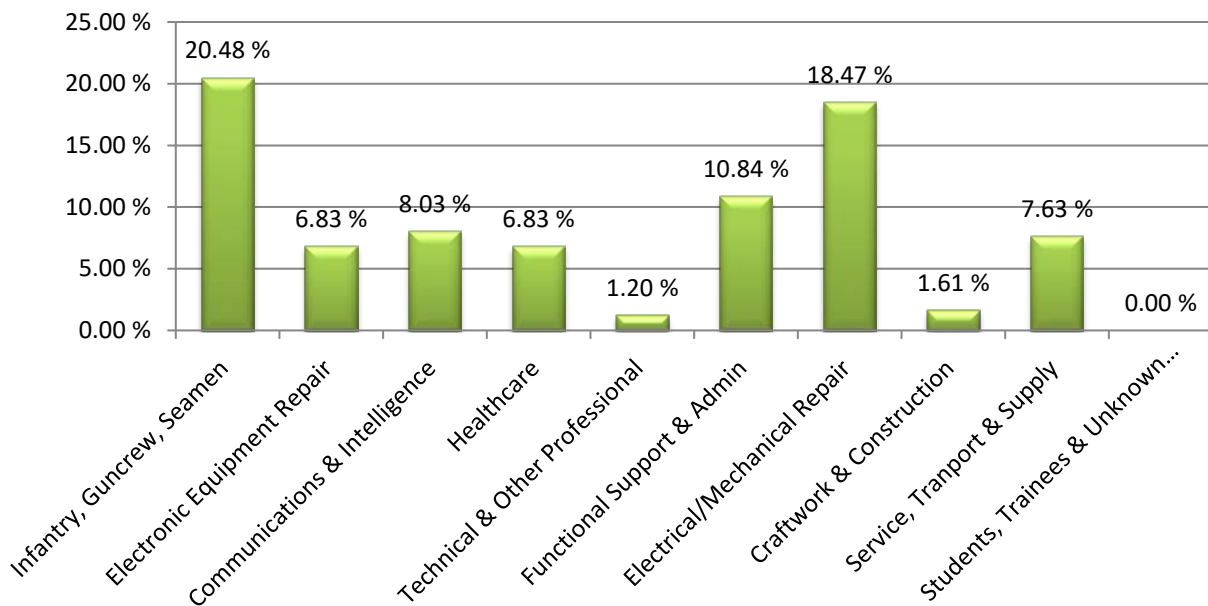


CY 2015 US ARMY ACTIVE DUTY (AD) EYE INJURY SUMMARY

Army AD Deployment Associated Eye Injuries CY15 by Injury Group Percent of Total



Army Deployment Associated Eye Injuries CY15 by Occupational Group- Enlisted Only Percent of Total



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CY 2015 US ARMY ACTIVE DUTY (AD) EYE INJURY SUMMARY

US Army Annual Eye Injury Report, Active Component, 2015

	2015											
	Ambulatory MTF Visits				Deployment-Associated Healthcare				Hospitalizations			
	Primary Diagnosis		All Diagnoses		Primary Diagnosis		All Diagnoses		Primary Diagnosis		All Diagnoses	
	Count	Rate ¹	Count	Rate	Count	% total ³	Count	% total ³	Count	Rate	Count	Rate
ALL ACTIVE COMPONENT												
Total	3,558	7.31	5,685	11.67	237	100.00	249	100.00	10	0.02	68	0.14
Superficial Injuries	2,533	5.20	3,588	7.37	214	89.17	220	88.35	2	0.00	12	0.02
Contusion	375	0.78	653	1.36	12	5.00	14	5.62	4	0.01	21	0.04
Orbit	160	0.33	264	0.54	3	1.25	3	1.20	12	0.02	36	0.07
Lid/adnexa	195	0.40	380	0.78	2	0.83	2	0.80	3	0.01	10	0.02
Posterior segment	99	0.20	270	0.56	1	0.42	2	0.80	1	0.00	6	0.01
High Risk of Blindness	36	0.07	48	0.10	1	0.42	1	0.40	3	0.01	6	0.01
Burns	77	0.16	100	0.21	6	2.50	6	2.41	0	0.00	3	0.01
Anterior Segment	29	0.06	98	0.20	0	0.00	0	0.00	0	0.00	0	0.00
Optic/Cranial nerve	8	0.02	17	0.03	1	0.42	1	0.40	0	0.00	0	0.00
Male	3,042	7.27	4,845	11.59	205	86.50	214	85.94	10	0.02	60	0.14
Female	516	7.49	840	12.19	32	13.50	35	14.06	0	0.00	8	0.12
War	-	0.00	-	0.00					-	0.00	-	0.00
Guns and explosives	18	0.04	22	0.05					1	0.00	3	0.006
Sports	25	0.05	29	0.06					1	0.00	2	0.004
Machinery and tools	273	0.56	290	0.60					1	0.00	1	0.002
Land transport	11	0.02	25	0.05					2	0.00	5	0.010
Other transport	0	0.00	2	0.00					0	0.00	0	0.000
Slips, trips and falls	201	0.41	229	0.47					0	0.00	3	0.006
Fighting, assault and horseplay	46	0.09	71	0.15					4	0.01	6	0.012
Other and unknown causes	3,272	6.72	5,424	11.14					16	0.03	74	0.152
ENLISTED (all diagnoses combined)												
Enlisted	2,943	7.51	4,707	12.01	193	81.43	204	81.93	9	0.02	59	0.15
<20	166	4.39	274	7.25	6	2.53	7	2.81	0	0.00	3	0.08
20-24	1,057	7.73	1,763	12.89	77	32.49	83	33.33	3	0.02	27	0.20
25-29	757	8.55	1,166	13.17	44	18.57	47	18.88	1	0.01	14	0.16
30-34	457	7.66	693	11.61	34	14.35	34	13.65	3	0.05	9	0.15
35-39	281	7.43	445	11.76	16	6.75	16	6.43	2	0.05	3	0.08
>=40	225	7.21	366	11.72	16	6.75	17	6.83	0	0.00	3	0.10
E0-E4	1,658	7.88	2,707	12.87	103	43.46	111	44.58	4	0.02	31	0.15
E5-E9	1,285	7.08	2,000	11.01	90	37.97	93	37.35	5	0.03	28	0.15
Infantry, Guncrew, Seamen	751	7.22	1,215	11.69	47	19.83	51	20.48	2	0.02	27	0.26
Electronic Equipment Repair	148	6.92	226	10.57	15	6.33	17	6.83	1	0.05	4	0.19
Communications & Intelligence	330	6.75	523	10.70	19	8.02	20	8.03	1	0.02	6	0.12
Healthcare	289	8.39	453	13.15	17	7.17	17	6.83	0	0.00	2	0.06
Technical & Other Professional	114	8.04	174	12.27	3	1.27	3	1.20	0	0.00	3	0.21
Functional Support & Admin	388	6.68	643	11.07	25	10.55	27	10.84	1	0.02	4	0.07
Electrical/Mechanical Repair	472	9.00	727	13.86	45	18.99	46	18.47	1	0.02	6	0.11
Craftwork & Construction	104	10.83	166	17.29	3	1.27	4	1.61	0	0.00	0	0.00
Service, Transport & Supply	327	7.08	551	11.93	19	8.02	19	7.63	3	0.06	7	0.15
Students, Trainees & Unknown Enlist	20	7.34	29	10.65	0	0.00	0	0.00	0	0.00	0	0.00
OFFICER (all diagnoses combined)												
Officer	615	6.47	978	10.28	44	18.57	45	18.07	1	0.01	9	0.09
<20	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
20-24	53	5.35	80	8.07	7	2.95	7	2.81	0	0.00	2	0.20
25-29	129	6.43	226	11.26	11	4.64	11	4.42	0	0.00	0	0.00
30-34	114	5.66	187	9.28	11	4.64	11	4.42	0	0.00	0	0.00
35-39	138	7.49	196	10.64	11	4.64	11	4.42	0	0.00	3	0.16
>=40	181	6.81	289	10.88	4	1.69	5	2.01	1	0.04	4	0.15
O0-O3,W0-W3	393	6.36	630	10.19	36	15.19	36	14.46	0	0.00	3	0.05
O4-O10,W4-W5	222	6.66	348	10.44	8	3.38	9	3.61	1	0.03	6	0.18
General/Flag Ofc & Executives	3	9.28	6	18.56	0	0.00	0	0.00	0	0.00	0	0.00
Tactical Operations Off.	189	6.20	300	9.84	16	6.75	16	6.43	0	0.00	3	0.10
Intelligence Off.	42	6.07	72	10.40	2	0.84	2	0.80	0	0.00	1	0.14
Engineering & Maintenance Off.	89	5.82	142	9.28	8	3.38	8	3.21	0	0.00	2	0.13
Healthcare Off.	122	7.42	196	11.92	2	0.84	2	0.80	0	0.00	0	0.00
Scientists & Professional Off.	35	5.38	64	9.83	1	0.42	1	0.40	0	0.00	1	0.15
Administrative Off.	62	8.23	85	11.29	4	1.69	5	2.01	1	0.13	2	0.27
Supply & Logistics Off.	61	6.51	96	10.25	11	4.64	11	4.42	0	0.00	0	0.00
Students, Trainees & Unknown Off.	12	5.32	17	7.54	0	0.00	0	0.00	0	0.00	0	0.00

1. Rates are per 1,000 person-years.
 2. Use of ICD-9-CM E-codes for "cause of injury" is largely incomplete for theater healthcare records and therefore omitted.
 3. Person-time is not available for deployers so the proportion of the total number of diagnoses is shown.

Source: Defense Medical Surveillance System (DMSS) as of 13-APR-2016
 Prepared by the Armed Forces Health Surveillance Branch, Public Health Division, Defense Health Agency

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