

# Battle Injuries in Polish Soldiers Deployed to ISAF Operation in Afghanistan.\*

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## The main area of research interests:

- Health hazards in different climatic and sanitary conditions in the military environment,
- Health problems of soldiers deployed to peace and stabilization military operations,
- Tropical medicine and parasitology,
- Dermatology and venereology.

## Military service in peace and stabilization operations:

- United Nations Interim Force in Lebanon (UNIFIL 1999/2000, 2001/2002),
- Iraqi Freedom Operation (Iraq 2004),
- Enduring Freedom Operation (Afghanistan 2005),
- European Union Force in Chad (EUFOR Chad/RCA 2009),
- United Nations Mission in the Central African Republic and Chad (MINURCAT II 2009),
- International Security Assistance Force in Afghanistan (ISAF 2010, 2011, 2012, 2013, 2014),
- European Union Force in the Central African Republic (EUFOR RCA 2014, 2015),
- Resolute Support Mission (Afghanistan 2015).

## RESUME

### Blessures de guerre dans le contingent polonais déployé en Afghanistan au sein de l'opération ISAF.

**Objectif :** Cet article présente l'étude de la prévalence des blessures de guerre au sein du personnel Polonais déployé en Afghanistan pendant la période 2010-2013.

**Matériel et méthodes :** Les auteurs ont étudié les dossiers médicaux de 340 soldats, membres du contingent militaire polonais (PMC) ayant nécessité une hospitalisation au groupe de soutien médical (MSG, Rôle 2) à la base d'opération avancée de Ghazni (Région est de l'ISAF) pour des blessures de guerre pendant la période d'avril 2010 à octobre 2013. Nous avons effectué un recensement dans lequel chaque membre de la population étudiée était soumis à une analyse statistique. Cette population comprenait 902 patients (personnel militaire) hospitalisés au MSG et 15 504 soldats affectés au sein du PMC en Afghanistan pendant la même période.

**Résultats :** La cause la plus fréquente d'hospitalisation était constituée par les blessures de guerre (37,1 %). Un total de 420 blessures ont affecté 335 soldats admis au MSG. Les blessures étaient causées par des engins explosifs improvisés (IED), des projectiles de mortier, de RPG ou par des armes légères. Les blessures les plus fréquentes étaient des contusions musculo-squelettiques (par effet de souffle), des lésions par éclats ou par balles et des fractures. 42 % des blessés de guerre ont nécessité une évacuation médicale vers la Pologne et 58 % ont pu retourner dans leur affectation sur le théâtre d'opérations après traitement.

**Conclusion :** Le conflit armé non conventionnel qui a lieu en Afghanistan est un exemple de guerre asymétrique dans lequel les blessures de guerre constituent le premier problème de santé pour le personnel de l'ISAF.

**KEYWORDS:** Battle injuries, Polish soldiers, ISAF, Afghanistan.

**MOTS-CLÉS :** Blessures de guerre, Soldats polonais, ISAF, Afghanistan.

## INTRODUCTION

Contemporary military operations are usually combat activities. One such operation is *International Security*

*Assistance Force* (ISAF) carried out in Afghanistan. Military personnel from several dozen different countries, including Poland, have been involved in ISAF operation since 2006 (and previously in the operation *Enduring Freedom*

since 2002). Regular military actions undertaken by the opponents of ISAF presence in Afghanistan result in increased prevalence of battle-related injuries among military personnel. Afghanistan is one of the countries where the risk from a terrorist attack is particularly high. Executions of the local people and assaults are all commonplace. In 2010, more than 7 000 acts of violence were committed in the territory of Afghanistan by armed militias (mainly the Taliban), 2 500 Afghans were killed in terrorist or criminal attacks<sup>7</sup>. The unconventional armed conflict led in Afghanistan is an example of asymmetric warfare, i.e. a conflict in which the armed forces of highly developed countries are confronted with a much weaker enemy whose aims, organization, equipment and tactics do not fit the standard definition of a war due to significant disparity in power between the opposing combatants. Belligerents taking part in an asymmetric conflict do not engage in direct combat in a battlefield. They attempt to inflict the maximum possible damage by using unconventional methods; therefore they commonly carry out terrorist attacks. Nearly every day patrols and convoys are attacked with improvised explosive devices, rockets and mortar shells are fired at military bases, small arms ambushes are regularly set up. All this results in increased prevalence of multiple-organ injuries, gunshot wounds, shrapnel wounds and acoustic traumas in coalition soldiers<sup>2</sup>.

The aim of the article was to present the results of the research into the prevalence and structure of battle injuries in the Polish Military Contingent soldiers who were deployed to ISAF operation in Afghanistan from 2010 to 2013 and were hospitalized at the Medical Support Group (Role 2) in Forward Operating Base Ghazni (ISAF, East Region).

## HEALTH SERVICE IN PMC AFGHANISTAN

The primary tasks undertaken by medical service supporting Polish Military Contingent (PMC) in Afghanistan included: health prevention and treatment of the sick and wounded; evacuation of the sick and wounded; medical reporting; maintaining an adequate supply of medicines, reagents, dressing materials and medical equipment; ensuring coordinated cooperation between different level medical facilities; professional training of the medical personnel. The system of medical support in Afghanistan was organized into three levels and Polish medical personnel were capable of providing medical assistance at Role 1 – immediate treatment at the scene of incident or in outpatient facilities (medics) and at Role 2 – at a field hospital (Medical Support Group). Patients in serious condition, requiring specialist treatment which was beyond the capabilities of a Role 2 facility, were transferred to a Role 3 medical center (the U.S. Combat Support Hospital in Bagram Airfield) and then, if necessary, to a Role 4 hospital established outside the theater of operations (Landstuhl Regional Medical Center in Germany or military hospitals in Poland)<sup>3</sup>. Medical Support Group (MSG, Role 2) located in Forward Operating Base (FOB) Ghazni was a leading medical facility supporting PMC Afghanistan. Its primary task was to

provide qualified medical assistance to all PMC personnel. MSG was capable of providing the following procedures: admission and triage of the sick and wounded, resuscitation, stabilizing and maintaining vital functions, performing life/limb/vision-saving surgeries, preparing patients for evacuation to a higher level medical facility (Combat Support Hospital, Role 3), short-term hospital care (up to 12 days) for patients who could be returned to duty<sup>4</sup>. Polish MSG was established in February 2010 and was initially operating on an out-patient basis. The first patient was hospitalized in April 2010. The sick call at MSG provided 24/7 service (a physician on call, 2 nurses, a paramedic-driver). Additionally, there were 3 medical teams on standby (each team consisting of a physician, 2 nurses and a paramedic/recorder (collecting and processing information on a patient)). In the period from 2010 to 2013, MSG employed 40 full-time personnel, including 8 physicians (a general surgeon, an orthopedic surgeon, an anesthesiologist, an internist, a radiologist, 3 general practitioners), a dentist, a vet, a pharmacist, 3 laboratory diagnosticians, 12 nurses, 7 medics, 7 technical personnel. As regards the MSG structure, it was organized into Headquarters, sick call and triage room, a medical evacuation team, a surgical team, a hospital team, a dental clinic, a diagnostic laboratory, an X-ray room, a pharmacy and a technical support section.

## MATERIAL AND METHODS

The authors have analyzed medical records of soldiers serving in the Polish Military Contingent (PMC) who were hospitalized at the Medical Support Group (MSG, Role 2) in Forward Operating Base Ghazni (ISAF, East Region) due to battle injuries in the period from April 2010 to October 2013. It was a census study, i.e. each of the 902 patients who received hospital treatment at MSG out of a total of 15 504 Polish military personnel deployed to Afghanistan within the given period was subjected to statistical analysis. And thus we have analyzed medical records of 2 394 soldiers deployed to Afghanistan in April-September 2010 (7<sup>th</sup> rotation), 2 547 soldiers - in October 2010-March 2011 (8<sup>th</sup> rotation), 2 540 soldiers - in April-September 2011 (9<sup>th</sup> rotation), 2 284 soldiers in October 2011-March 2012 (10<sup>th</sup> rotation), 2 375 soldiers in April-September 2012 (11<sup>th</sup> rotation), 1 793 soldiers in October 2012-April 2013 (12<sup>th</sup> rotation), and 1 571 soldiers - in May-October 2013 (13<sup>th</sup> rotation). Battle injuries sustained in PMC servicemen

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\* Presented at the 3<sup>rd</sup> ICMM Pan-European Congress on Military Medicine, Belgrade, Serbia, 2-6 June 2014.

were analyzed in line with the ICD-10 classification. The basis for calculating the intensity rate of battle injuries was the number of injured patients used as a numerator and the total number of hospitalized patients in the study population in a given period used as a denominator ( $n = 902$ ), multiplied by the coefficient  $C = 10^k$  ( $k = 0, 1, 2, 3, \dots$ , in this statistical analysis  $k = 2$ ). All statistical calculations were performed using StatSoft Inc. (2011) STATISTICA (data analysis software system) version 10.0 (SN JGNP3087539302AR-E) and the Excel spreadsheet.

## RESULTS

The study has demonstrated that 902 (i.e. 5.82% of PMC personnel) out of 15 504 Polish soldiers relocated to the mission area in Afghanistan for the period April 2010 – October 2013 required hospitalization at the Medical Support Group (MSG, Role 2) in FOB Ghazni. The most common cause of hospital treatment among Polish soldiers were injuries (63%); especially combat-related ones (37.1/100 patients) (Figure 1).

A total of 420 battle injuries, mainly from improvised explosive devices (225 cases), mortar and RPG shells (70 cases) and small arms fire (40 cases), were sustained in 335 soldiers treated on an inpatient basis at MSG. 143 soldiers with battle injuries, i.e. 42% of the casualties (mainly those with shrapnel wounds, gunshot wounds and fractures), were medically evacuated from Afghanistan to Poland. Having received medical treatment, 58% of the injured soldiers were returned to duty in the theater of operation. The structure of battle injuries sustained in Polish soldiers within the given period is presented in Table 1.

Musculoskeletal contusions were significantly more

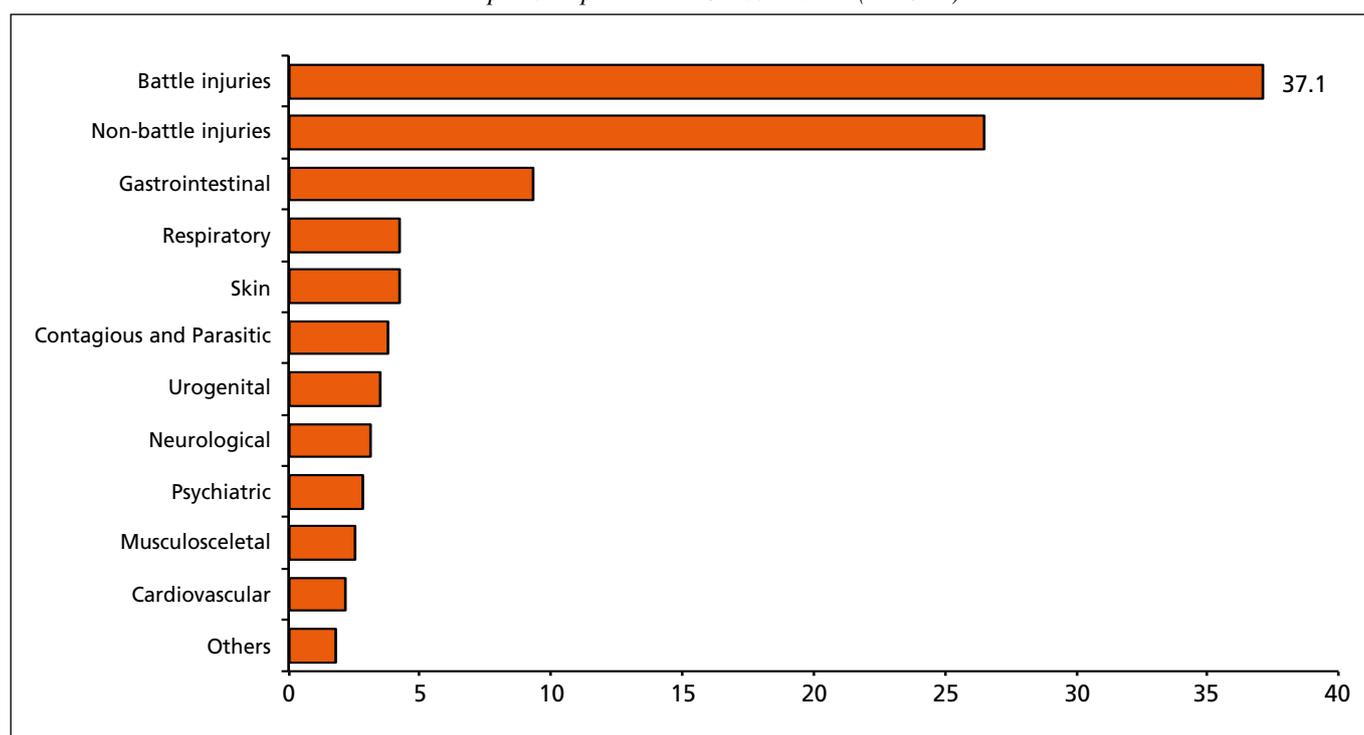
common in comparison with other battle injuries ( $p = 0,0001$ ). As regards gunshot wounds as well as shrapnel wounds no statistically significant correlation as to their location has been found (Table 2). 25 of the PMC personnel died of battle injuries within the analyzed period (in total, 40 irrecoverable casualties were reported in Afghanistan from 2007 to 2013). Polish soldiers died from multiple-organ injuries and craniocerebral traumas.

Morbidity from battle injuries among Polish soldiers reached its peak from April to September 2011, which resulted from the intensification of kinetic military actions in the theater of operations within the given period. The analysis of fixed growth rate indicated that from April 2010 to October 2013 the morbidity from battle-related injuries was reduced by 68.6%. The morbidity was decreasing by 17.34% per year (Table 3, Figure 2).

## DISCUSSION

Contemporary stabilization operations are essentially of combat nature. This means that sanitary losses suffered by the coalition forces are mainly due to battle injuries. A total of 4 804 military personnel were killed in operation *Iraqi Freedom* from 2003 to 2012, including 4 486 U.S. soldiers, 179 British and 139 soldiers of other nationalities. As much as 93.4% of the military personnel killed in operation *Iraqi Freedom* were Americans, which is not surprising as the U.S. Forces contributed over 90% of the manpower and equipment. Out of approximately 1 million U.S. Forces soldiers deployed to Iraq more than 32 000 were injured, the injuries were mostly battle-related<sup>5</sup>. Operation *Iraqi Freedom* ended in 2012, while operation *Enduring*

*Figure 1: Diseases and injuries in soldiers serving in PMC Afghanistan hospitalized at MSG in the period April 2010 - October 2013 (n = 902).*



**Table 1:** Battle injuries in soldiers serving in PMC Afghanistan hospitalized at the Medical Support Group in the period April 2010 - October 2013 (n = 335).

BATTLE INJURIES	PMC AFGHANISTAN SOLDIERS PMS Afghanistan soldiers		
	Number of injuries	Number of injured per 100 patients (n=902)	Intensity rate per 100 soldiers (n=15504)
Musculoskeletal contusion	101	11.2	0.7
Shrapnel wound	62	6.9	0.4
Gunshot wound	37	4.1	0.2
Fracture	36	4.0	0.2
Acoustic trauma	33	3.7	0.2
Cranio-cerebral trauma	31	3.3	0.2
Multiple-organ injury - death	20	2.2	0.1
Cranio-cerebral trauma - death	5	0.6	0.0
Post-traumatic limb amputation	4	0.4	0.0
Second degree skin burn	3	0.3	0.0
Other	3	0.3	0.0
<b>TOTAL</b>	<b>335</b>	<b>37.1</b>	<b>2.2</b>

**Table 2:** Location of gunshot and shrapnel in PMC soldiers hospitalized at MSG in the period April 2010 - October 2013.

BATTLE INJURIES	Upper extremity	Lower extremity	Trunk, pelvis, spine	Head, neck	Cranio-cerebral trauma - death	Multiple-organ injury - death	TOTAL
<b>GUNSHOT WOUNDS</b>	13	16	5	4	-	2	<b>40</b>
<b>SHRAPNEL WOUNDS</b>	24	38	13	15	5	18	<b>106</b>
<b>P</b>	0.2219	0.6432	0.9692	0.5061	-	0.0604	
<b>TOTAL</b>	<b>37</b>	<b>54</b>	<b>18</b>	<b>19</b>	<b>5</b>	<b>20</b>	<b>146</b>

Freedom/ISAF (International Security Assistance Force since 2006) is still in progress. Operation *Enduring Freedom* started in 2001 so it is one of the longest military operations in contemporary history. A total of 3 423 soldiers were killed in Afghanistan from October 2001 to February 2014, including 2 313 U.S. Forces soldiers, 447 British and 663 soldiers of other nationalities.

From 2002 to 2006, the Polish military component numbered around 100 personnel. Yet, Poland had been gradually expanding its contingent since 2007 and eventually the total number of Polish servicemen operating under ISAF was brought to 4 500 in the period 2007-2013. 43 Polish soldiers were killed in Afghanistan within the given period (the highest death toll after American, British, Canadian, French, German and

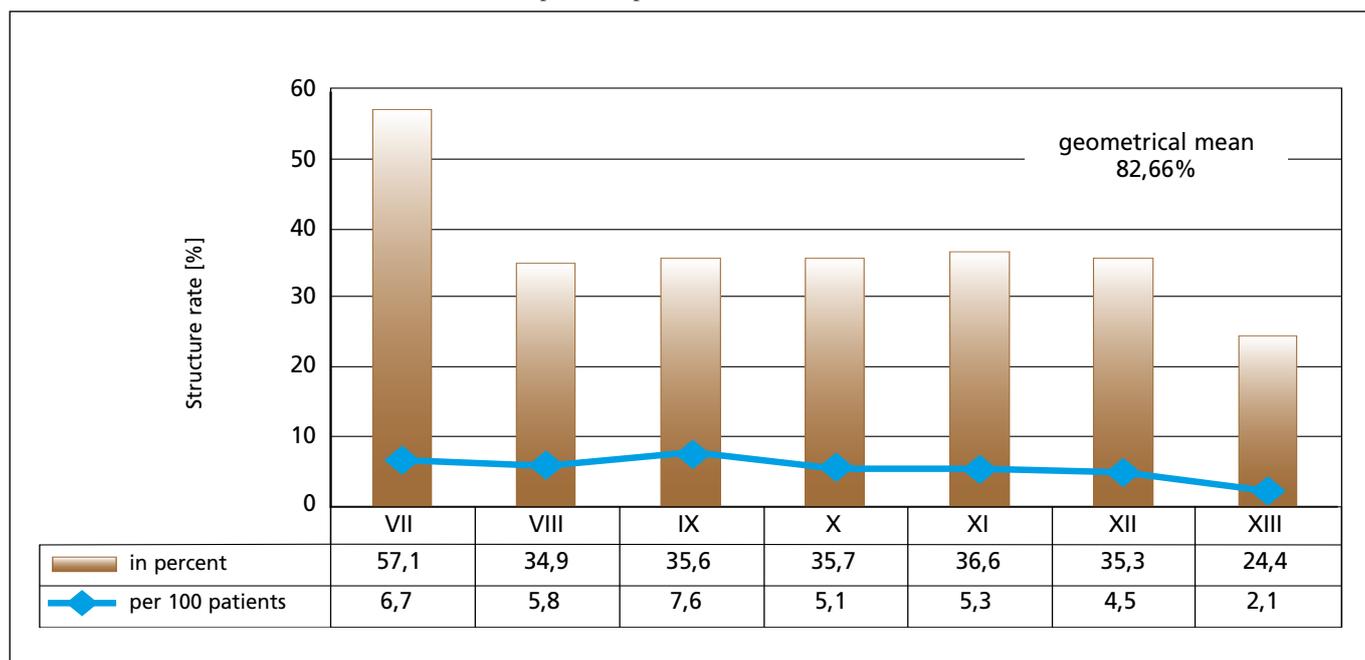
Italian soldiers); 40 died of battle injuries, 2 due to non-battle injuries and 1 died of an infectious disease.

As regards operation *Enduring Freedom*, a huge amount of military effort has been contributed by the U.S. Forces (both manpower and equipment). 67.6% of the soldiers killed in Afghanistan were of American nationality. In addition to irrecoverable personnel losses, another 17.5 thousand U.S. soldiers have been wounded, mostly in combat. The majority of military personnel serving in the Afghan theater were killed or wounded by improvised explosive devices (IEDs). 1 391 coalition soldiers, including 23 Poles have been killed in IED attacks. The number of sanitary losses is heavily influenced by the location of national contingents. From October 2001 to February 2014, only one coalition

*Table 3: Morbidity from battle injuries in PMC soldiers hospitalized at MSG in the period April 2010 - October 2013.*

PERIOD	BATTLE INJURIES				
	NUMBER OF CASES/PERCENTAGE	NUMBER OF INJURED PER 100 PATIENTS (N=902)	INTENSITY RATE PER 100 SOLDIERS (N=15504)	GROWTH RATE	
				FIXED-BASIS [%]	VARIABLE-BASIS [%]
April-September 2010	60/57.1%	6.7	0.39	100.0	-
October 2010-March 2011	52/34.9%	5.8	0.34	86.0	86.0
April-September 2011	69/35.6%	7.6	0.45	114.2	131.9
October 2011-March 2012	46/35.7%	5.1	0.30	76.1	67.1
April-September 2012	48/36.6%	5.3	0.31	79.4	104.3
October 2012-April 2013	41/35.3%	4.5	0.26	67.8	85.8
May-October 2013	19/24.4%	2.1	0.12	31.4	46.8
<b>TOTAL</b>	<b>335</b>	<b>37.1</b>	<b>2.2</b>	<b>GEOMETRICAL MEAN G=82.66%</b>	

*Figure 2: Morbidity from battle injuries in PMC soldiers hospitalized at MSG in the period April 2010 - October 2013.*



soldier died in Samangan province and another two in Ghowr province, whereas 544 servicemen were killed in Kandahar province and as many as 945 lost their lives in Helmand province. Polish troops have been assigned to Ghazni province, where the threat from kinetic military action is moderate. 113 coalition soldiers were killed there over the analyzed period<sup>6</sup>. The author's own studies focusing on PMC soldiers requiring hospitalization at the Medical Support Group (Role 2) in the period April 2010- October 2013 revealed clear dominance of battle injuries over other health problems (37.1 cases per 100 treated patients). Military personnel fighting in a contemporary battlefield are much more likely to survive than their predecessors taking part in previous

combat operations. This is mainly due to high-tech equipment (helmet, bulletproof vest), personal medical equipment (tourniquet, morphine, personal wound dressing) as well as efficient system of medical evacuation<sup>7</sup>. Nearly 1300 battle-injured American soldiers (including those requiring limb-amputation) serving in Iraq and Afghanistan survived owing to quick medical evacuation from a battlefield to a Role 2 or 3 medical facility and next to a Role 4 outside the theater of operations<sup>8</sup>. The most common battle injuries were cranio-cerebral traumas as well as contusions and fractures being the effect of the blast wave<sup>9</sup>. Neuropsychiatric changes resulting from cranio-cerebral traumas are currently the focus of attention from neurosurgeons,

neurologists and psychiatrists especially that the number of those cases has been steadily growing over the recent years. Craniocerebral traumas accounted for as much as 22% of all injuries sustained in battle-wounded U.S. Forces soldiers assigned to operations *Iraqi Freedom* and *Enduring Freedom*, more than during the Vietnam War and Operation *Desert Storm*<sup>10</sup>.

The analysis of medical records gathered from patients who were treated at a Dutch field hospital (Role 2) in FOB Tarin Kowt in Uruzgan province (Afghanistan) due to injuries (n = 2 736) from 2006 to 2010 has demonstrated that 60% of the treated soldiers suffered non-battle injuries while 40% of the soldiers were battle-injured. A total of 1 617 combat injuries were sustained in 1 101 patients (a mean of 1.6 wounds per 1 casualty). The majority of battle injuries treated at a Dutch field hospital were from the blast of explosive devices (55%) and small arms fire (35%). Battle injuries were most commonly located on lower extremities (33%), head and neck (21%) and upper extremities (20%)<sup>11</sup>.

Of the nearly 2 million personnel assigned to military service in Iraq and Afghanistan for the period from 2005 to 2009, 7877 have been wounded sustaining more than 29 000 injuries. The majority of battle injuries were caused by explosive devices (74%) and small arms fire (20%). They were most often located on extremities (52%), head and neck (28%)<sup>12</sup>.

Most of the soldiers fighting in a contemporary battlefield, especially in the case of asymmetric warfare, are injured by improvised explosive devices (IED). In the period from 2007 to 2010 a series of post-mortem examinations were performed on 121 British soldiers, members of the ISAF operation, who were killed in IED attacks. The research revealed that the main cause of death in soldiers who died while travelling in an armored vehicle (n = 42) was craniocerebral trauma (50%) and internal bleeding (20.2%), whereas those who were going on foot (n = 79) died from limb hemorrhage, post-traumatic limb amputation (42.6%), junctional hemorrhage (22.2%, areas around the neck, armpits and groin) and craniocerebral trauma (18.7%)<sup>13</sup>.

In 2012, there were several hundred IED explosions worldwide, except for the territory of Iraq and Afghanistan where the number of IED attacks was much higher. In 2011 and 2012 more than 1 300 IEDs were planted and detonated in Afghanistan each month<sup>14</sup>. Owens et al. carried out research into the prevalence, location and mechanism of battle injuries sustained in American soldiers taking part in operations *Iraqi* and *Enduring Freedom* from 2001 to 2005. A total of 6609 combat-related injuries were sustained in 1566 participants of kinetic military actions carried out in Iraq and Afghanistan within the analyzed period (a mean of 4.2 wounds per 1 casualty). The injuries were mainly located on extremities (54%), head and neck (21%), abdomen (8%) and chest (6%). The percentage of chest injuries was relatively low due to increasingly common use of anti-fragment and bullet-proof vests. When compared to previous armed conflicts, the location of other

injuries was similar. During World War II battle injuries affected mainly extremities (58%), head and neck (21%), chest (14%) and abdomen (8%). In Vietnam: extremities (61%), head and neck (16%), chest (13%) and abdomen (8%). 81% of the injuries reported during the Iraqi and Afghan operations were shrapnel wounds caused by exploding shells (IED 38%, mortar 19%, grenade 16%, aerial bomb/rocket 2%, land mine 2%) and 19% were gunshot wounds caused by small arms fire. Shrapnel wounds were much more common than gunshot wounds in every location (head/neck 88% vs. 8%; extremities 81% vs. 17%; abdomen 81% vs. 17%; chest 78% vs. 19%). The proportion of shrapnel to gunshot wounds is higher in contemporary military conflicts than it used to be in the past armed conflicts (73% vs. World War II 27%, 65% vs. Vietnam 35%)<sup>15</sup>.

Suaya et al. conducted retrospective studies into treatment at a field hospital in Herat (Spanish contingent, Role 2, West Afghanistan) in the period 2005-2008. The research demonstrated that of the 256 battle-injured Spanish soldiers serving in Afghanistan, 71% were wounded by IED and 29% by small arms fire. The wounds were most commonly located on lower extremities (48% of the injured), upper extremities (39%) and abdomen (22%). 9% of the casualties with shrapnel wounds caused by IED explosion suffered skin burns. 55% of battle injuries were located in a single area, 23% - in 2 areas, 15.5% - in 3 areas and the rest in 4-6 areas (shrapnel wounds)<sup>16</sup>. Similarly, the author's own studies focusing on Polish soldiers who were hospitalized at the Medical Support Group in Afghanistan from April 2010 to October 2013 demonstrated that combat injuries (gunshot and shrapnel wounds) were most often located on lower extremities (37%), upper extremities (25%), head/neck (16%) and trunk (chest and abdomen; 13%). 14% of battle injuries affected multiple organs and multiple areas of the body and consequently they led to the death of a soldier in the theater of operations. Of the 335 Polish soldiers who sustained battle injuries, 67.2% were wounded by IED, 20.1% were injured by RPG or mortar fire and 11.9% by small arms fire.

It has been estimated that two-thirds of all combat injuries sustained in a contemporary battlefield are shrapnel wounds. These types of injuries often coexist with bone fractures, massive soft tissue damage and wound infections<sup>17</sup>. Shrapnel injuries are most commonly sustained in IED attacks. In addition, IED explosions often cause acoustic traumas which are the effect of the blast wave<sup>18</sup>. Gunshot and shrapnel wounds cause extensive damage to soft tissue (skin, subcutaneous tissue, muscles), blood vessels, nerves and bones and thus commonly result in multiple-organ failure. The research conducted among Soviet soldiers fighting in Afghanistan in the 1980s demonstrated that battle injuries affecting extremities commonly coexisted with injury to great vessels (42% of the cases), nerves (45.5%) and bones (47.4%). The majority of the injured soldiers were in shock (83.7%)<sup>19</sup>. The author's own studies examining battle injuries in the population of Polish soldiers (n = 335) serving in Afghanistan in years 2010-2013 revealed the dominance of musculoskeletal contusions (30%), shrapnel and gunshot wounds (29%),

bone fractures (11%) and acoustic traumas (10%). There were 25 irrecoverable losses among PMC personnel; the leading cause of death was multiple-organ failure and craniocerebral trauma. A total of 141 soldiers with battle injuries (42% of the injured) were medically evacuated from Afghanistan to Poland where they could receive specialist medical care. 58% of the injured soldiers were returned to active duty in the theater of operation once their hospital treatment was complete.

## CONCLUSIONS

The unconventional armed conflict led in Afghanistan is an example of asymmetric warfare, where battle injuries are the major health problem among the ISAF personnel.

## ABSTRACT

**Objective.** The article presents the results of the studies into the prevalence of battle injuries among Polish military personnel deployed to Afghanistan in the period from 2010 to 2013.

**Material and Methods.** The authors have analyzed medical records of 340 Polish soldiers, members of the Polish Military Contingent (PMC), who required inpatient treatment at the Medical Support Group (MSG, Role 2) in Forward Operating Base Ghazni (ISAF, East Region) due to battle injuries in the period April 2010–October 2013. We have conducted a census study, i.e. each member of the study population was subjected to statistical analysis. The study population comprised 902 patients (military personnel) hospitalized at MSG and 15 504 soldiers assigned to PMC Afghanistan within the given period.

**Results.** The most common cause of hospitalizations among Polish soldiers were battle injuries (37.1/100 patients). A total of 420 injuries were sustained in 335 soldiers treated on an inpatient basis at MSG. The injuries were caused by improvised explosive devices (IED), mortar, RPG or small arms fire. The most common battle injuries were musculoskeletal contusions (the effect of blast wave), shrapnel/gunshot wounds, and fractures. 42% of the patients with battle injuries were medically evacuated from Afghanistan to Poland. 58% of the wounded soldiers treated at MSG were returned to duty in the theater of operations.

**Conclusions.** The unconventional armed conflict led in Afghanistan is an example of asymmetric warfare, where battle injuries are the major health problem among the ISAF personnel.

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