

Evaluation of the Use of Force in Israel, Gaza and the West Bank

Medical and Forensic Investigation

A Report by Physicians for Human Rights

November 3, 2000

INTRODUCTION AND MAJOR FINDINGS

Physicians for Human Rights (USA) (PHR) conducted a medical and forensic investigation in Israel, Gaza and the West Bank from October 20-27, 2000 to investigate allegations of excessive use of force, including the use of prohibited ammunition in the current conflict between Israeli forces and Palestinian demonstrators and authorities. The three-person physician team also collected information on attacks on ambulances, patients and health professionals.

Physicians for Human Rights (USA) also investigated the disputed cause of death of a Palestinian man, 'Issam Judeh Mustafa Hamed. Palestinian authorities and groups have alleged that 'Issam Judeh was tortured and killed. Israeli authorities claim he died in a car accident. Physicians for Human Rights finds, within a reasonable degree of medical and forensic certainty, that 'Issam Judah died in a vehicular roll-over accident. PHR has issued a separate investigative report on this case.

The PHR team included forensic pathologists Robert H. Kirschner, M.D., University of Chicago School of Medicine; Nizam Peerwani, M.D., Tarrant County Medical Examiner's Office, Forth Worth, Texas; and James C. Cobey, M.D., M.P.H, an orthopaedic surgeon based in Washington, D.C.

SUMMARY OF FINDINGS

The PHR team found that the Israel Defense Force (IDF) has used live ammunition and rubber bullets excessively and inappropriately to control demonstrators, and that based on the high number of documented injuries to the head and thighs, soldiers appear to be shooting to inflict harm, rather than solely in self-defense.

HEAD INJURIES

PHR's analysis of fatal gun shot wounds in Gaza reveals that approximately 50% were to the head. This high proportion of fatal head wounds suggests that given broad rules of engagement, soldiers are specifically aiming at peoples' heads. Since the beginning of the conflict, of the first 1,134 casualties reported in West Bank and Gaza Hospitals, 26% were to the head and neck. Of 339 patients who presented to the emergency room through October 22 in Makassed Hospital, East Jerusalem, there were 25 confirmed bullet wounds to the head and neck of admissions. Four of these injuries were from live ammunition (ammunition fired from handguns, rifles, and machine guns).

THIGH INJURIES

In its visits to hospitals, the PHR team observed a repetitive pattern of high velocity gunshot wounds to the leg, particularly to the thigh. These wounds cause extreme injury, usually producing complex fractures and extensive muscle, nerve, and vascular injury. The majority of victims of these injuries, according to PHR, will have permanent disability in the affected leg. Witness reports, statements from an IDF spokesman to a member of the PHR team, and information from other human rights organizations, indicate that, while in some instances the IDF was subject to Palestinian fire, many of those injured in this manner were at most throwing stones, and were not carrying firearms. The numerous high velocity wounds to the thigh are highly unlikely to be random events, but rather suggest a policy on the part of the IDF that allows individual soldiers to shoot under very broad circumstances. Of the 12 patients that PHR interviewed and examined at Makassed and Shifa hospitals, 10 had gunshot wounds to the thigh or lower leg. All ten of these were either diagnosed as or consistent with high velocity ammunition. PHR has concluded, that a response to throwing stones that results in permanent disability, constitutes a gross violation of human rights.

RUBBER AND RUBBER COATED STEEL BULLETS

The numerous head and eye injuries related to rubber and rubber coated steel projectiles must be considered to reflect frequent misuse of these weapons, such as firing at a range of less than 40 meters and firing at the upper part of the body. Of 2,299 emergency ward visits recorded for the West Bank and East Jerusalem hospitals from September 29 to October 17, rubber bullets accounted for 40% of the injuries. 21 of 25 gunshot wounds to the head reported through October 22 at Makassed Hospital in East Jerusalem were rubber bullet injuries. Of the 21 rubber bullet injuries to the head, 16 were penetrating.

HIGH VELOCITY CASUALTIES

After reviewing post-mortem photographs, post-mortem and anti-mortem X-rays and CT scans, operating room records and medical records of the 31 Palestinians killed in Gaza between September 30 and October 24, the PHR team found that in 53% of the cases the victims were shot by high velocity weapons. Live ammunition was responsible for 30% of injuries among the 2,299 casualties previously cited.

CHILD CASUALTIES

Of the 31 Palestinians killed in Gaza between September 30 and October 24, 38% were under the age of 18. Of the first 1,134 injuries reported in the combined West Bank and Gaza data, 2% were under the age of 9, 14% were under the age of 15, and 17% were 16 through 18 years of age.

VIOLATIONS OF MEDICAL NEUTRALITY

Medical neutrality, enshrined in international humanitarian law, human rights law, and medical ethics, seeks to protect and limit injury and death to civilians, combatants, while providing standards for health professionals with respect to their rights and duties during war and peace. There have been repeated violations of medical neutrality during the renewed hostilities. The PHR team studied two damaged ambulances in Gaza; one of which had received a direct hit to the front window and the other was struck at least five times on the left-side by 50 caliber armor piercing ammunition that went completely through to the other side and damaged the stretcher inside the vehicle.

IDF officials who were interviewed by PHR admitted that early in the conflict there had been incidents of violations of medical neutrality, but the orders had been reissued from

headquarters for officers to respect the neutrality of ambulances and medical personnel. However, the PHR team personally interviewed a hospital van driver at Shifa hospital who was taking five cancer patients to Israel for outpatient chemotherapy and radiotherapy, who were all turned back at a check point between Israel and Gaza despite their valid permit to enter Israel.

LEGAL STANDARDS

Events on the ground suggest that the IDF are not following their regulations, instead allowing soldiers to fire when they are not acting solely in self-defense. This leniency extends to both non-lethal and lethal weapons. Israel's regulations for the IDF states that the soldier will use a weapon in the event of immediate "danger to life," and when it is impossible to effectively defend one's self from the assailant other than by the use of the weapon. Under these regulations, stone throwing or a violent riot can equate to danger to life, justifying the use of firearms. However, the regulations state that weapons are to be used to strike the assailant and not others, and should not cause loss of life to others or grave bodily harm. Also, regulations prohibit open fire towards women and children. As explained by an IDF spokesperson to the PHR team, any soldier in a life-threatening situation may fire his weapon in self-defense if other means of deterrence are not effective.

In addition to not following their own standards, the IDF is violating international humanitarian and human rights standards.

BACKGROUND AND OVERVIEW OF THE CONFLICT

Since the renewed crisis in the Middle East erupted in late September, there have been at least 160 deaths and over 5,000 injuries, the vast majority of which have been Palestinian. According to the Israeli human rights organization B'Tselem, as of

October 29, the death toll was 136. 95 Palestinian civilians had been killed by Israeli security forces (of which 23 were minors under the age of 17); 14 Palestinian security force personnel were killed by Israeli security forces, at least three Palestinians were killed by Israeli civilians, and two foreign nationals were killed by Israeli security forces. Three Israeli civilians were killed by Palestinian civilians, two Israeli security force personnel were killed by Palestinian security forces, three members of the Israeli security forces were killed by Palestinian civilians, and 13 Palestinians citizens of Israel and one Palestinian from the Occupied Territories were killed by police forces inside Israel.

There have been charges of serious human rights abuses committed by both sides. Israeli authorities as well as civilians have attacked and fired on civilian Palestinian and Israeli Arab targets, and armed Palestinian authorities, groups, and individuals have attacked Israeli civilians, soldiers, and police.

PHR (USA) sent its team to the region to investigate numerous allegations that included the following:

1. Numerous and repeated allegations by human rights organizations that the Israeli Defense Forces (IDF) have used inappropriate and excessive lethal force in their efforts to control Palestinian demonstrations and riots.
2. That the IDF and Israeli police have been reported to use inappropriate military methods rather than policing methods in controlling recent demonstrations.
3. Concerns that have been raised that a large proportion of those injured or killed included children and unarmed civilians.

4. Reports that lethal weapons have been used by the IDF in an illegal and indiscriminate manner.
5. Reports of improper and illegal use of ammunition, such as rubber-coated metal bullets, Dum-Dum type bullets, hollow point and expandable bullets, and other high velocity live ammunition.
6. That Palestinian police failed to prevent armed Palestinians from shooting at the Israeli Defense Forces where civilians have been present and likely to be caught in a crossfire.

EVENTS LEADING UP TO THE PHR INVESTIGATION

The current crisis was ignited on September 28, when Israel's Likud Party leader, Ariel Sharon, visited Haram al-Sharifa or the Temple Mount, a Jerusalem site sacred to both Jews and Muslims. Accompanied by hundreds of Israeli riot police, Sharon stated: "The Temple Mount is in our hands and will remain in our hands. It is the holiest site in Judaism and it is the right of every Jew to visit the Temple Mount." Riots and demonstrations by Palestinians followed Sharon's visit, with stones being thrown at Israelis over the Western Wall. Israeli riot police responded with force including rubber bullets and live ammunition and several Palestinians were killed and at least 200 were injured.

Demonstrations and violent clashes erupted throughout the West Bank and Gaza to protest the killings at the Temple Mount/Haram al-Sharifa. Israeli authorities claimed that the violent unrest had been planned and orchestrated in advance of the Sharon incident. The clashes escalated when the killing of 12-year-old Palestinian boy, Mohammed al-Durah, in Gaza was captured on television and broadcast around the world. The violence between Palestinians and Israeli forces continued throughout the West Bank and Gaza and spread to Arab towns in Israel resulting in numerous deaths and injuries, the vast majority of which were Palestinian.

After Palestinians declared a "day of rage" following the death of nine Palestinians in Gaza, the West Bank, and Jerusalem, Palestinian demonstrators, on October 7, stormed Joseph's tomb in Nablus, a holy Jewish site, setting fires and tearing holy books. That same day, Israel's Prime Minister Barak issued a warning to Palestinian leader Arafat calling for an end to the violence within 48 hours or Israeli troops would respond in full force.

The crisis escalated further. In one of the most intense clashes in decades, the road that separates the predominately Arab town of Nazareth and the predominately Jewish Upper Nazareth became a battle scene on October 9. In response to Arab protests, hundreds of Jewish residents from Upper Nazareth crossed into Nazareth armed with stones. The police forcefully separated the two sides, and two Arab Israeli citizens were killed and hundreds were injured.

On October 12, two Israeli reserve soldiers who had made a wrong turn near the West Bank town of Ramallah were taken into Palestinian police custody and subsequently beaten to death by an enraged Palestinian mob. In retaliation for the killing and mutilation of the reserve soldiers, Israeli helicopters fired missiles on Palestinian targets in the West Bank and Gaza. Following this intensification of the conflict, peace efforts by the United Nations, United States, European Union and others brought Barak and Arafat together for talks.

By the time the PHR team arrived in the region on the weekend of October 21, prospects for reducing the violence and returning to peace talks had dimmed. Violent incidents continued throughout the period of the PHR investigation, including clashes between armed Palestinian police and Israeli soldiers, but with the vast majority of injuries and deaths due to Israeli fire on Palestinian demonstrators.

METHODS

The PHR (USA) team interviewed physicians and patients in Israel, Gaza and the West Bank to gain objective data on hospital admissions and injury type. The team also reviewed data from the Ministry of Health of the Palestine National Authority, and confirmed the data by reviewing hospital records, emergency room logs, and admission reports. The team studied the weapon types being used and confirmed the ammunition type by viewing X-ray data of patients and by examining bullets removed from patients.

In addition to gaining objective data in hospital admissions and injury types, the team interviewed Eitan Felner Director of the Israeli human rights organization, B'Tselem; Dr. Munther Alsherif, Deputy Minister of Health for the Palestine Authority; Dr. Nasri Mu'alleem, neurosurgeon from Ramallah Hospital in the West Bank; Dr. Khaled Qurie, Director of Makassed Hospital, East Jerusalem; Dr. Arafat S. Hidmi; Chairman of the Board of Directors Makassed Hospital, East Jerusalem; Mustafa Barghouti, M.D, M. Sc., Director of Health, Development, Information and Policy Institute; Jihad Mashal, M.D.MSc, Vice President of the Union of Palestinian Medical Relief Committee; Bassem Eid, Director of the Palestinian Human Rights Monitoring Group; Jehuda Hiss, M.D., Director of the Greenberg Institute of Forensic Medicine, Jerusalem; Hedva Radanovitz, Executive Director, Physicians for Human Rights/Israel; Hadas Ziv, Director of Projects, PHR Israel; Dr. Marwan El Za'eem, Ministry of Health, Palestine National Authority; Dr. Abd-Elraza H. Elmasry, Director of Forensic Medicine, Palestine National Authority; Dr. Khalil M. Abou Foul, Supervisor of Emergency Medical Services—Gaza, Palestine Red Crescent; Colonel Daniel Reisner, Chief of International Law Section of the Israeli Defense Forces (IDF); and Lieutenant Colonel Lairon Leibmen, Deputy Chief Army Prosecutor, IDF.

LEGAL STANDARDS

Legal standards apply to Israeli Defense Forces' activities as well as the security forces of the Palestinian Authority. Standards at both the internal and international level prohibit excessive and/or disproportionate use of force and prohibit violations of medical neutrality, such as attacks on ambulances and medical personnel.

The conduct of both Israeli and Palestinian security forces is subject to international standards, including the Geneva Conventions and the United Nations' Code of Conduct for Law Enforcement Officials (Law Enforcement Code) and its Basic Principles on the Use of Force and Firearms by Law Enforcement Officials (Law Enforcement Principles). Other international laws outlaw exploding bullets and specific kinds of weaponry and ammunition.

Despite the fact that in the past, Israel has challenged the application of international norms to IDF activities, the U.N. has applied the Geneva Civilian Convention (1) (also known as the Fourth Geneva Convention) to Israel's activities in the West Bank and Gaza (2), as have major human rights groups. As part of international humanitarian law, the Geneva Civilian Convention protects civilians under occupation and has applied to Israel's occupation of the West Bank and Gaza since the 1967 war. In addition, the IDF senior officer told PHR that "the Fourth Geneva Convention and other humanitarian laws apply" to the current clashes. The Geneva Conventions prohibit murder, torture and cruel, inhumane and degrading treatment. In addition, included in the Geneva Conventions is the customary rule of law against force that results in disproportionate and/or indiscriminate killing or violence to civilian persons. In an occupation, such as Israel's of the West Bank and Gaza, the rule of proportionality applies and prohibits excessive force against civilians.

The U.N.'s Law Enforcement Code and Law Enforcement Principles cover all law enforcement officials, including military authorities with such duties. Article 9 of the Law Enforcement Principles states, "Law enforcement officials shall not use firearms against persons except in self defense or in defense of others against the imminent threat of death or serious injury... and only when less extreme means are insufficient to achieve these objectives." Article 5 states

that officials shall use firearms in proportion to the offence, to minimize injury and preserve human life.

Israel's own regulations - Israeli Defense Forces' Orders for Opening Fire in Judea and Samaria (i.e. the West Bank) - call on the IDF to police or have responsibility "for internal security and public order." In an October 26, 2000 interview with a member of the PHR team, an IDF senior officer in the legal office stated that unlike the clashes of the 1987-1993 Intifada, the current clashes did constitute an "armed conflict," or "warfare," but not "war." He also said that the regulations developed to govern IDF activities in Gaza and West Bank since the Oslo Accords - and known to human rights groups and others in Israel - still apply to IDF forces during the current round of clashes.

These regulations state that a soldier will use a weapon, in the event of immediate "danger to life," and when it is impossible to effectively defend oneself from the assailant other than by the use of the weapon." Under these regulations, stone throwing or a violent riot can equate to danger to life and justify the use of firearms. However, the regulations state that weapons are to be used to strike the assailant and not others, and should not cause loss of life to others or grave bodily harm. As explained by an IDF spokesperson, any soldier in a life-threatening situation may fire his weapon in self-defense, if other means [of deterrence] are not effective. This is defined subjectively by each soldier. Similarly, according to the IDF, snipers are only used in life-threatening situations. Also the regulations prohibit firing towards women and children.

The IDF legal officer said soldiers, whose use of live ammunition results in the death of a Palestinian, need not file a report or face an investigation into the justification for the use of their weapon. This is a departure from the procedures in place during the 1987-1993 Intifada. He also said the rules for the use of the so-called "rubber" bullets remain unchanged.

Medical neutrality is a principal enshrined in medical ethics and international law that seeks to limit injury and death to civilians and soldiers who are *hors de combat*, and to protect medical personnel and health facilities. The Geneva Conventions require that the wounded and sick be cared for, medical personnel carry out their duties in a non-discriminatory manner, that they not be attacked, and that health facilities, such as hospitals and ambulances, not be attacked. The Law Enforcement Basic Principles also say that officials (i.e. soldiers) must ensure that medical assistance is rendered as soon as possible.

HOSPITAL DATA

The PHR (USA) team reviewed admission and surgical data from Israel, the West Bank and Gaza to determine the types of weapons used by the IDF and to assess the resulting injuries and deaths. PHR has requested from the IDF a list of Israeli soldiers who have been wounded or killed during the recent conflict to assess the nature and extent of their injuries.

PHR (USA) reviewed admissions data for the West Bank and East Jerusalem hospitals that had been compiled by each hospital, and forwarded to the Ministry of Health of the Palestine National Authority. According to records — emergency room admission reports, hospital census data and operating room summaries - reviewed, compiled, and cross checked by PHR, from September 29 to October 17 there were 2,299 emergency ward visits with 22% of patients being admitted and 18% requiring surgery. Live (handgun, rifle, or machine gun) ammunition was responsible for 30% of the injuries, and "rubber" bullets for 40%. The overall death rate from the admission data from these hospitals was 2.5%, ranging from 0.4% in Hebron to 8% in Rafidia Hospital in the West Bank.

Although physicians at these hospitals could not give PHR a specific number, they reported that many patients had their injuries treated and were released without being registered by the hospital.

Of the first 1,134 injuries reported from the West Bank and Gaza: 70% were injuries to the upper body; more than 98% were males. Twenty-two percent of the injuries were from live ammunition; 40% were from rubber bullets; 26% of the injuries were to the head and neck; 7% were to the chest; and 5% were to the back. Of these 1,134 injured, 2% were under the age of 9, 14% were under the age of 15, 17% were 16 – 18 years, 49% were 19 – 24 years, 14% were 25 - 29, and 13% were 30 – 71 years old.

In East Jerusalem the major referral hospital for trauma and all types of surgery is Makassed Hospital. There, the PHR team reviewed the daily log sheets of all patients presenting to the emergency room and subsequent admissions. The team also reviewed the daily list of in-patients. Of the 339 patients presenting to the emergency room from September 29 to October 22, 57 or 17% had injuries to the head, neck, chest, or back. The team found a high number of head wounds from rubber bullets. Of hospital admissions in Makassed, from October 1 to October 22, there were 25 confirmed bullet wounds of the head and neck - 21 of these were rubber bullet injuries and 4 were from live ammunition. Of the 21 rubber bullet injuries to the head, 16 were penetrating. There were 13 chest and back wounds, 10 from rubber bullets and 3 from live ammunition. There was one abdominal wound resulting from a rubber bullet. In terms of the lower extremity, there were 15 cases altogether, 11 from rubber bullets and 4 from live ammunition.

In Gaza, the PHR team reviewed the Ministry of Health's data from the established hospitals and small, emergency field hospitals. From September 29 to October 24, there were 2,324 injuries, of which rubber bullets accounted for 493 or 21%.

The PHR team personally interviewed and examined 12 patients from two hospitals, Makassed Hospital in East Jerusalem, and Shifa Hospital, the major trauma hospital in the Eastern half of the Gaza strip. One of the 12 had been injured by a rubber bullet shot at close range (5 meters) injuring his face, and fracturing his jaw. Ten of the patients interviewed had gunshot wounds to the thigh or lower leg. In six of the 10, the injuries were diagnostic of high velocity ammunition, and the other four were consistent with high velocity ammunition. This ammunition caused massive damage to bone, muscle, nerves and blood vessels. The PHR physicians determined that it is very likely that all of these patients will be left with permanent disability in the affected limb.

DEATHS IN GAZA

Between the period September 30 through October 24, 2000, 31 Palestinians were shot and killed by members of the Israeli Defense Forces (IDF), at various locations in Gaza. These were sites of Palestinian demonstrations. Nitzarim was the site where most of these killings (74%) took place on different days. Thirty-eight percent of those shot were children below the age of 18 years, with the youngest 12 years; the oldest was 48 years, the driver of an ambulance. In 53% of cases, the Palestinians were shot with high velocity weapons, mostly 5.56-mm. In one instance, the injury pattern was consistent with a .50 caliber round. This decedent was 24 years of age and from witness accounts, he was shot from a helicopter gunship.

Nearly half the victims were shot in the head. There were several victims shot in the back or from behind and in one instance, evidence indicates the victim was probably on the ground when shot (the victim had a "shored" exit gunshot wound of the back. To a forensic pathologist, this indicates that the exit wound site was supported against a firm surface.) In several of these cases, PHR was able to document that there was no imminent danger posed to the IDF in

the context of the shooting. In addition, the IDF breached medical neutrality by shooting at ambulances and killing at least one ambulance driver, Bassem Al-Bebesi, who died from a single gunshot wound of left flank. Finally, the IDF improperly deployed rubber-coated steel bullets in a manner that caused the death of at least one child, a 12 year old Wael M. Emad, who was shot in the forehead on October 21 near the Eretz checkpoint.

DATA ON ISRAELI ARAB CITIZENS INJURED IN ISRAEL

The results of the Nazareth clashes as reported by PHR-Israel gave a 27% admission rate, a 17% surgical rate and a 1.3% death rate out of 303 injured patients reported at hospitals in Nazareth – Holy Family, Scottish and French hospitals. Reliable reports indicate that in these clashes virtually no Arab Israeli citizens had any firearms, but both steel-coated rubber bullets and live ammunition were used by the police and border guards. The PHR team was unable to visit Nazareth during this period.

ATTACKS ON AMBULANCES AND HEALTH PERSONNEL

Human rights groups have repeatedly reported violations of medical neutrality during the conflict. Medical neutrality is a normative construct that draws on international humanitarian law, human rights law, and medical ethics. Medical neutrality seeks to protect and limit the injury and death to civilians and combatants and provide standards for health professionals with respect to their rights and duties in war and peace.

According to the Palestine Red Crescent Society (PRCS), 33 ambulances were hit by gunfire and 17 were destroyed from 64 separate attacks. The PHR team studied two damaged ambulances in Gaza. One had received a direct hit to the front window and the other was struck at least five times on the left side by 50 caliber armor piercing ammunition that went completely through to the other side and damaged the stretcher inside the vehicle. It was also hit by a rubber bullet on the same side. According to the driver, the ambulance had sustained damage on the right side from a previous attack.

Colleagues at Physicians for Human Rights Israel (PHR-Israel) have reported numerous instances in which the IDF have violated medical neutrality including: the blocking of the Augusta Victoria and the Makassed Hospitals in Jerusalem and preventing injured patients from receiving care. PHR-Israel has also reported shooting at medical personnel, some of whom were wearing vests clearly identifying them as medical personnel, while they were providing care to the injured. They also reported delays in medical treatment to detainees (two Israelis and one Palestinian) who were arrested during the current crisis.

Between October 1 and October 23, PHR-Israel reported that 17 Palestinian ambulances were "utterly destroyed" by the IDF. During the week from October 19 to October 23 alone, PHR-Israel reported that an additional 26 ambulances were damaged by gun fire.

PRCS personnel and vehicles have been attacked by Israeli settlers in Israeli controlled areas and Magen David Adom ambulances have been attacked by Palestinian civilians in areas under Israeli security controlled areas, according to Human Rights Watch.

In other instances of violations of medical neutrality, the Union of Palestinian Medical Relief Committees (UPMRC) has reported that 12 UPMRC medical personnel have been injured by Israeli forces while providing medical care.

The Israeli army claims that the ambulances are not being used properly, but the PHR team received no documentation of an ambulance being used for purposes other than transporting

the wounded. When PHR interviewed IDF officials, they admitted that early in the conflict there had been incidents of violations of medical neutrality but that orders had been re-issued from headquarters to officers in the field to respect the neutrality of ambulances in the field and medical personnel.

The PHR team also personally interviewed a hospital van driver at Shifa Hospital who was taking five cancer patients to Israel for outpatient radiotherapy and chemotherapy. Despite the fact that all of the patients had valid permits to enter Israel, they were turned back at the Eretz checkpoint between Israel and Gaza, and refused entry into Israel.

WOUNDING AND AMMUNITION

Because of the many allegations of the use of illegal or atypical forms of ammunition by the IDF, the PHR team evaluated projectiles and bullet fragments recovered by physicians during the current conflict. This evaluation was carried out by review of X-rays of patients and decedents, examination of wounds in hospitalized patients, as well as bullets removed from patients during the time surgery and postmortem examination. The PHR Team visited three area hospitals, including Ramallah Government Hospital serving the entire township of Ramallah, West Bank, the Makassed Hospital in Jerusalem and Al-Shifa Hospital in Gaza which serves the northern half of Gaza. The types of ammunition examined included:

5.56-mm (.223 caliber): A U.S. and NATO round fired by M-16 weapon, it is widely used by the IDF. It has a muzzle velocity of 975 to 1,000 meters/sec. This round fired from an M-16 weapon has a tendency to break open on impact causing a "lead storm" in the tissue (visible by X-ray), even without impacting a bone, thereby releasing all the kinetic energy possessed by the bullet and causing large temporary cavities, and extensive damage to muscle, nerves and blood vessels, as well as fractures. The entrance wounds produced on the skin surface are generally small, no greater than 1/8 inch in diameter and typically depict radial "micro-tears". An exit wound, when present, is very large.

7.62-mm: This round can be fired from an AK-47 and is also used by NATO. It has a muzzle velocity of 715 meters/sec but because of its greater mass it has more muzzle energy than M-16 ammunition. It is, however, stable and generally tends to go directly through a body without breaking up unless bony tissue is encountered. It produces a small entrance defect slightly larger than 1/8 inch with large exit defects.

9-mm: Introduced in 1902, the 9-mm Luger is the most widely used military handgun cartridge in the world. All modern submachine guns, including the Uzi, are chambered for this cartridge. The muzzle velocity ranges from 370 to 390 meters/sec. A 9-mm round is generally stable and does not break-up on striking the tissue. The loss of kinetic energy is much less than those encountered in high velocity rounds including the 5.56-mm and 7.62-mm, and hence the temporary cavities and the severity of injuries are less intense.

50 caliber: This is a military round generally fired from a mounted gun, either on a helicopter or tank. The large size of the bullet and high velocity (exceeding 1,000 meters/sec) cause tremendous damage to the human body on impact. Entrance defects produced by this bullet approach 1/2-inch in diameter with extremely large blow-out exit defects. Many of such rounds are re-enforced as "armor piercing". The PHR team examined a Red Crescent Ambulance in Gaza which was damaged by a helicopter gunship which strafed the ambulance with five 50 caliber shells that passed right through the ambulance, including a metal Gurney parked in the ambulance.

Rubber and rubber-coated steel bullets: These are intended, if correctly used, to incapacitate by inflicting painful and superficial injuries without killing or causing serious

injury. They are intended to be fired at a range no less than 30 to 70 meters, with fire generally directed at the lower extremities. Although originally designated as "non-lethal", they are now generally called "less lethal". The bullets used by the IDF against Jewish citizens within the State of Israel or against the Jewish settlers in the West Bank and Gaza for riot control are exclusively rubber. There have been no reported deaths resulting from these pure rubber bullets.

Those used against the Palestinians by the IDF and examined by the PHR team are rubber coated steel bullets. The PHR team reviewed several patient records including postmortem findings of a 12 year old Palestinian boy, Wael M Emad, who was fatally shot in the forehead at Eretz crossing on October 21, 2000 by a rubber coated steel bullet. The rubber coated steel bullets are of two types: (a) Spherical 1.83 cm steel with approximately 2 mm outer rubber shell; (b) Cylindrical 1.83 cm in diameter with a length of 1.83 cm steel with approximately 2 mm outer rubber shell. Each of these has a muzzle velocity of 100 meters/sec. They may be fired from a metallic canister that is mounted on the muzzle of either an M-16 or Galeil rifle. The cannister can hold up to 15 rubber bullets. There have been reports of steel rubber coated bullets fired singly in the recent conflict.

Plastic Bullet: The PHR Team also noted the use of plastic (poly-vinyl chloride) bullets with metallic fragments (and hence visible on X-Rays). This is a bullet-shaped missile having a 5.56-mm caliber that is loaded on a regular 5.56-mm cartridge. It has a muzzle velocity is 375 meters/sec. Plastic bullets with metallic fragments can easily penetrate the cranium and cause death as reported by Dr. J. Hiss.

The PHR team found no evidence of the use of as Dum-Dum type bullets, hollow point bullets, or other expanding bullets. The confusion regarding the types of ammunition used by the IDF is not unusual in situations where high velocity, M-16 ammunition, not previously in common use, has been introduced. The massive tissue destruction caused by the release of kinetic energy from these small projectiles which often disintegrate in the body produces a frightening clinical presentation which greatly challenges the surgeons who must care for these patients. When there are many such injuries, medical resources are stressed to the limit.

DISCUSSION OF EXCESSIVE AND INAPPROPRIATE USE OF FORCE

The high number of disabling injuries and deaths of Palestinians reflects a change from the Intifadah of 1987 - 1993, at which time the IDF controlled the entire West Bank and Gaza and few, if any, Palestinians had firearms. Currently, the Palestinian Authority police have light arms, and small geographical regions of the West Bank and much of Gaza are no longer under formal IDF control. Yet, numerous independent eyewitness accounts from PHR interviews and other reliable reports have documented that most of those who have been shot were not carrying or using firearms. In one instance, on October 24, PHR physicians witnessed a demonstration on the outskirts of Ramallah where they saw IDF soldiers fire live and rubber ammunition at Palestinian civilians when they could see no evidence of Palestinians using firearms.

The PHR team in its visits to hospitals observed a repetitive pattern of high velocity gun shot wounds to the leg, particularly to the thigh. These wounds cause extreme injury, usually producing complex fractures, and extensive muscle, nerve and vascular injury. The majority of victims of these injuries will have permanent disability in the affected leg. Witness reports, statements from an IDF spokesman to a member of the PHR team, and information provided to other human rights organizations, indicate that those injured in this manner were at most throwing stones, and were not carrying firearms.

Our analysis of fatal gunshot wounds in Gaza reveals that approximately 50% are to the head and 50% to the torso. To date, the PHR team has been unable to compile comparable data for the West Bank. IDF soldiers in life-threatening situations are taught to aim for the torso, as this is the largest area of the body. The IDF spokesman commented to the PHR team that he was aware of the high incidence of high velocity gun shot wounds to the head, and did not dispute that most of these injuries were not inflicted upon individuals who posed an immediate threat to a member of the IDF.

In addition to the high velocity live ammunition used, the numerous head and eye injuries related to the use of rubber-coated steel projectiles must be considered to reflect frequent misuse. Such projectiles are designed to incapacitate without causing serious injury and thus when fired at appropriate range and in the proper manner should rarely, if ever, cause such injuries. Witness accounts of IDF soldiers firing rubber bullets directly at demonstrators from close range are confirmed by the high number of penetrating wounds to the head and blinding eye injuries that were found by the PHR team.

Events on the ground suggest that the IDF are not following their regulations. Instead they are allowing soldiers to fire under more lenient circumstances. This extends to both non-lethal and lethal weapons.

The numerous head and eye injuries, the high proportion of thigh wounds and fatal head wounds, and the fact that similar patterns of such shootings occurred over a period of weeks demonstrate two disturbing patterns: 1) IDF soldiers are not firing only in life threatening situations and 2) they are firing at heads and thighs to injure and kill, not to avoid loss of life and injury.

Such patterns of excessive force violate the IDF regulations and the UN Law Enforcement Principles calling for soldiers not to cause injuries and fatalities except in extraordinary life threatening situations. These patterns also violate the Geneva Conventions prohibitions against murder, torture, cruel and degrading treatment and other targeting of civilians, and the Conventions' proportionality protection mandating that officials minimize civilian casualties.

RECOMMENDATIONS

PHR deplors the injury and loss of life to both Palestinians and Israelis in the current conflict, and urges all Palestinians and Israelis to act in good faith to de-escalate the violence. PHR appeals to Palestinian and Israeli authorities and civilians to exercise restraint, and warns of the grave danger of a spiraling conflict that will result in more injuries, disability and death.

1. PHR calls on Israel to stop the excessive use of force by its military and police against the Palestinian population.
2. PHR also urges Israeli authorities to adhere to strict rules allowing use of live ammunition only in life-threatening situations. It calls on Israel to abide by international restrictions regarding use of lethal force in clashes with civilians and to strictly follow the IDF's own rules of engagement for the use of rubber bullets.
3. PHR deplors attacks on ambulances and medical personnel, and calls on all authorities to ensure safe evacuation, passage and entry of patients and health professionals into hospitals and clinics.
4. PHR calls on Israeli authorities to investigate and prosecute in Israel those military personnel and civilians responsible for unjustified use of force in the current conflict.
5. Children should be protected by Palestinian authorities to every extent possible. They should be shielded from participation in, or presence at, violent demonstrations. Israeli

- authorities should make all efforts to ensure that children are not targets of lethal weapons or inappropriate use of force.
6. Whenever possible, professional forensic death investigations should be conducted by the responsible authorities. Interpretation of wounds and ammunition types by persons without appropriate forensic training can lead to dangerous errors in interpretation of causation of injuries.
 7. The Palestinian Authority has the responsibility to ensure the safety of all persons within their jurisdiction. They must take measures to ensure that armed individuals do not endanger the lives of other civilians. PHR calls on the Palestinian Authority to make public its rules of engagement, and to adhere to international standards regarding the use of force. PHR calls on the Palestinian Authority to investigate and bring to justice all perpetrators of illegal use of force.

Endnotes

(1) Geneva Convention relative to the Protection of Civilian Persons in Time of War, adopted 1949.

(2) See S.C. Res. 1322, UN SCOR, 4205 mtg, UN doc S/RES/1322 (2000)

Physicians for Human Rights mobilizes the health professions and enlists support from the general public to protect and promote the human rights of all people.

The group shared the 1997 Nobel Peace Prize for its work as a founding member of the International Campaign to Ban Landmines. Physicians for Human Rights is the coordinating organization of the United State Campaign to Ban Landmines.

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