



“They Burn Through Everything”

The Human Cost of Incendiary Weapons and the Limits of International Law

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INTERNATIONAL HUMAN RIGHTS CLINIC
HUMAN RIGHTS PROGRAM AT HARVARD LAW SCHOOL



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Summary

Over the past decade, the use of incendiary weapons, including white phosphorus, in Afghanistan, Gaza, Syria, and elsewhere has generated serious concerns for dozens of states parties to the Convention on Conventional Weapons (CCW). Many of these states call for strengthening CCW Protocol III, the only international instrument dedicated to regulating incendiary weapons. Because the CCW's annual meetings operate by consensus, however, a small number of countries have blocked progress, and the forum has become bogged down in a debate about whether to include incendiary weapons on the agenda. Instead of discussing whether to discuss these issues, states should be addressing how to deal with the weapons' humanitarian consequences.

This report aims to refocus the debate on incendiary weapons by highlighting the horrific human cost of their use. A humanitarian approach more appropriately frames the issue in terms of human suffering and underscores the urgent need to revisit and strengthen the existing international law governing these weapons.

Incendiary weapons produce heat and fire through the chemical reaction of a flammable substance. They inflict excruciating burns, sometimes to the bone, and can cause respiratory damage, infection, shock, and organ failure. Over time, contractures—the permanent tightening of muscles and other tissue—impede mobility, while the trauma of the initial attack, painful treatments, and appearance-changing scars lead to psychological harm and social exclusion. The fires caused by incendiary weapons can also destroy civilian structures and property, damage crops, and kill livestock. Furthermore, the inadequate resources available to medical providers in armed conflict settings exacerbate the already challenging process of treating serious burns.

Protocol III to the CCW, adopted in 1980, seeks to prevent this harm by regulating the use of incendiary weapons, but its efficacy as a humanitarian instrument is limited by two major loopholes. First, its design-based definition arguably excludes certain multipurpose munitions with incendiary effects, notably those containing white phosphorus. Second, the protocol has weaker restrictions for ground-launched incendiary weapons than air-dropped versions, even though all such weapons cause the same harm.

The next Review Conference of the CCW, scheduled for late 2021, provides states parties a crucial opportunity to assess the adequacy of Protocol III, with an eye to starting a process to close the protocol's loopholes. But first, states need to agree at their next meeting to place Protocol III on the Review Conference's agenda.¹

To underscore the humanitarian imperative behind this reasonable call, this report details the immediate and long-term effects of incendiary weapons and illustrates the human suffering with case studies from Gaza, Afghanistan, and Syria. It draws on more than a dozen extended interviews with survivors, witnesses, doctors, nurses, journalists, and other experts as well as in-depth desk research in medical journals. The report then explains the shortcomings of Protocol III and analyzes the 2019 CCW debate, which reflects significant support for revisiting and strengthening the existing instrument.

¹ The CCW's annual Meeting of States Parties was scheduled for November 11-13, 2020, but at the time of this report's publication, it seemed likely it would be postponed due to Covid-19 restrictions.

Recommendations

Human Rights Watch and Harvard Law School's International Human Rights Clinic (IHRC) urge CCW states parties to intensify their work on incendiary weapons now so that they are prepared to take concrete action at the 2021 CCW Review Conference. In particular, the states parties should:

- Set aside dedicated time in 2021 to discuss Protocol III;
- Agree to include Protocol III on the agenda of the 2021 CCW Review Conference;
- Express their views on the inadequacy of Protocol III during the general debate or the session on the status and operation of the protocols at the CCW's next Meeting of States Parties;
- Condemn and continue to raise awareness of the use of and harm caused by incendiary weapons, including white phosphorus; and
- Work to close Protocol III's loopholes and further stigmatize the use of incendiary weapons. A complete ban on incendiary weapons would have the greatest humanitarian benefits.

Immediate Harm

Incendiary weapons, regardless of how they are delivered, cause significant human suffering in the immediate aftermath of attacks and in the weeks and months that follow. They inflict horrific burns that require painful treatment. They can also damage the respiratory system and cause emotional distress. White phosphorus munitions produce similarly cruel injuries to other incendiary weapons, despite falling outside CCW Protocol III's definition. White phosphorus can burn people to the bone, smolder inside the body, and reignite when bandages are removed.

Burns

The burns that are characteristic of incendiary weapons are frequently severe or even fatal. The severity of burns depends primarily on the total body surface area (TBSA) affected, rather than on the type of burn. In general, a person with 5 to 6 percent TBSA burns does not require hospitalization, and a person with 5 to 15 percent TBSA burns needs hospitalization but may not need surgery. A person with burns covering more than 15 percent of the body requires intensive care and sometimes experiences kidney failure.²

Incendiary weapon attacks, such as those described in case studies later in this report, often result in burns that cover well over 15 percent of the body's surface area. An 8-year-old Afghan girl named Razia, for example, sustained burns on 40 to 45 percent of her body from a white phosphorus attack outside of Kabul in 2009.³ In 2013, children rushed to a hospital after an incendiary weapon struck their school in Urum al-Kubra, Syria "had major burns, [with] 50, 60, 80 percent [TBSAs]," according to Dr. Rola Hallam, a British-Syrian doctor who helped treat them.⁴ Dr. Saleyha Ahsan, another British emergency care doctor on duty at the same hospital, told Human Rights Watch and IHRC, "Every single patient in my group [of six] had more than 60 percent body surface area burns. That's huge. That's really bad. And we know the more body surface area, the younger they are, the worse their

² Human Rights Watch-IHRC video interview with Dr. Anupama Mehta, burn specialist, Brigham and Women's Hospital, October 14, 2020.

³ See Jason Straziuso and Evan Vucci, "Burned Afghan Girl Learns to Smile Again," *Associated Press*, June 23, 2009, <https://www.nbcnews.com/id/wbna31509214> (accessed October 30, 2020).

⁴ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, founder and CEO of CanDo and former medical director of Hand in Hand for Syria, October 15, 2020.

prognosis.”⁵ Both doctors noted that because burns of the same size cover a greater percentage of a child’s body, burns in children typically have a higher TBSA percentage than adults with the same amount of exposure.⁶ Children are therefore more likely to die of severe burns than adults. Dr. Ahsan explained, “[T]he younger the child and the larger the body surface area covered in burns, the lower the survival chance. It is pretty dangerous with children.”⁷

The burns inflicted by incendiary weapons not only have a high TBSA, but are also deep and dangerous. “Incendiary weapons cause devastating burns, and in far worse ways than any of the standard scald or fire burns,” Dr. Hallam explained. “They can burn through everything. If they can burn through metal, what hope does human flesh have?”⁸ Individuals with 10 percent TBSA napalm burns may suffer renal failure.⁹ A 10 percent TBSA white phosphorus burn can cause sudden death.¹⁰

In the days, weeks, and months after being burned, individuals who survive these attacks require extensive medical care. Victims can lose massive amounts of fluid through open burn wounds.¹¹ Dr. Anupama Mehta, a burn surgeon at Brigham and Women’s Hospital in Boston, Massachusetts, explained, “If it is a large enough injury, those patients will require a large volume resuscitation. That means they need liters and liters of fluid to help with intravascular flow just by sheer hydration. It’s kind of like dry soil that’s all been burnt and you have to get water to the dry soil.”¹² This dehydration explains why the children injured in the Urum al-Kubra incendiary weapon attack kept calling for water after they arrived at the hospital.¹³ Medical providers also have to intubate patients to open their

⁵ Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, emergency care doctor and Cambridge University PhD student, October 16, 2020.

⁶ Human Rights Watch-IHRC video interviews with Dr. Rola Hallam, October 15, 2020, and Dr. Saleyha Ahsan, October 16, 2020.

⁷ Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

⁸ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

⁹ Bishara S. Atiyeh and Shady N. Hayek, “Management of War-Related Burn Injuries: Lessons Learned from Recent Ongoing Conflicts Providing Exceptional Care in Unusual Places,” *Journal of Craniofacial Surgery*, vol. 21 (2010), p. 1530.

¹⁰ Uri Aviv et al., “The Burning Issue of White Phosphorus: A Case Report and Review of the Literature,” *Disaster and Military Medicine*, vol. 3 (2017), p. 4.

¹¹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

¹² Human Rights Watch-IHRC video interview with Dr. Anupama Mehta, October 14, 2020.

¹³ Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

airways and perform intensive wound care, including surgeries to scrape away dead skin.¹⁴ Sometimes burns make a person’s chest so tight it becomes difficult or impossible for them to breathe, so doctors have to cut into the flesh to allow the chest to move more freely.¹⁵ After being stabilized, victims of severe burns usually undergo multiple skin graft surgeries to patch over the skin they lost and to increase their likelihood of regaining mobility.¹⁶ They also require intensive physical and occupational therapy to recover strength and range of motion.¹⁷

From impact through treatment and even beyond discharge from the hospital, incendiary weapon burns cause excruciating pain.¹⁸ Patients with severe burns “require maximum doses of pain medications ... once or twice a day,” said Dr. Stephanie Nitzschke, a surgeon at Brigham and Women’s Hospital and director of the hospital’s burn center.¹⁹ If a burn patient does not report feeling pain, as was the case with many victims of the Urum al-Kubra attack, it “is immediately a red flag for how extensive [the person’s] burns are” because it indicates that nerves have been damaged.²⁰ Even for patients who do not initially feel the effects of their burns, medical treatment results in terrible pain. Doctors and nurses must remove dead or damaged tissue from the burn area through a “really painful process” called debridement, and the daily or twice-daily dressing changes to minimize infection risk “usually need to be done under anesthesia.”²¹

In the days after sustaining burn injuries, survivors face a high risk of infection. According to Dr. Mehta, “Your skin is your first line of immunity, and if the largest organ of your

¹⁴ Human Rights Watch-IHRC video interview with Christine Collins, critical care nurse and former US Air Force captain, October 10, 2020; Human Rights Watch-IHRC video interview with Dr. Stephanie Nitzschke, burn specialist, Brigham and Women’s Hospital, October 15, 2020.

¹⁵ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

¹⁶ Ibid.

¹⁷ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020; Human Rights Watch-IHRC video interview with Dr. Jeffrey Schneider, program director of Boston-Harvard Burn Injury Model System and medical director of Spaulding Rehabilitation Hospital Burn and Trauma Program, October 21, 2020.

¹⁸ Aviv et al., “The Burning Issue of White Phosphorus: A Case Report and Review of the Literature,” *Disaster and Military Medicine*, p. 4; Loai Barqouni, Nafiz Abu Shaban, and Khamis Elessi, “Interventions for Treating Phosphorus Burns (Review),” *Cochrane Database of Systematic Reviews*, vol. 6 (2014), p. 3; Jill S. Waibel, Kim Phuc Phan Thi, and Leonard J. Hoenig, “Decades after Napalm Burns: Healing the Scars of the ‘Napalm Girl,’” *Journal of the American Medical Association Dermatology*, vol. 154 (2018), p. 1228.

¹⁹ Human Rights Watch-IHRC video interview with Dr. Stephanie Nitzschke, October 15, 2020.

²⁰ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

²¹ Ibid.

immunity, your skin, is affected, then your innate immunity is compromised.”²² Dr. Nitzschke added that the loss of skin leaves “wide open wounds ... really at risk for infection. That is the most common cause of death, if [patients] survive the initial 24-hour burn stage.”²³ Having burns on more than 20 percent of the body’s surface area “increases rapidly your risk of infection” and can lead to shock, a condition whereby the volume of blood circulating through the body drops precipitously.²⁴

Other Physical and Emotional Effects

Burns are the most visible, but not the only harm inflicted by incendiary weapons. Exposure to incendiary weapons frequently damages the respiratory system. Burns to the head and neck can inflame the upper airway, making it difficult to breathe.²⁵ Additionally, incendiary weapons release carbon monoxide and carbon dioxide, which can cause poisoning and respiratory or organ failure when inhaled.²⁶ Inhaling air with high carbon monoxide and carbon dioxide and low oxygen content can also alter a person’s mental state.²⁷ If an attack occurs in an enclosed space, incendiary weapons can elevate the temperature enough to cause heat stroke.²⁸

Beyond inflicting physical injury, incendiary weapons cause fear, horror, and panic in survivors, witnesses, and families.²⁹ Nimr al-Maqusi witnessed a January 17, 2009 white phosphorus attack on the UN Relief and Works Agency (UNRWA) school in Beit Lahiya, Gaza, which killed two children and injured several others. Al-Maqusi said, “The scene was beyond description. The people in the school were running around in a panic.”³⁰ Dr. Ahsan

²² Human Rights Watch-IHRC video interview with Dr. Anupama Mehta, October 14, 2020.

²³ Human Rights Watch-IHRC video interview with Dr. Stephanie Nitzschke, October 15, 2020.

²⁴ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020; Tam N. Pham, Leopoldo C. Cancio, and Nicole S. Gibran, “American Burn Association Practice Guidelines Burn Shock Resuscitation,” *Journal of Burn Care & Research*, vol. 29 (2008), p. 257.

²⁵ Hao Tian et al., “Epidemiology and Outcome Analysis of Facial Burns: A Retrospective Multicentre Study 2011–2015,” *Burns*, vol. 46 (2020), p. 719, 724.

²⁶ Gregory T. Guldner and Curtis Knight, “Napalm Toxicity,” *StatPearls*; Tian et al., “Epidemiology and Outcome Analysis of Facial Burns: A Retrospective Multicentre Study 2011–2015,” *Burns*, p. 494; Peter Reich and Victor W. Sidel, “Napalm,” *New England Journal of Medicine*, vol. 277 (1967), p. 87.

²⁷ Guldner and Knight, “Napalm Toxicity,” *StatPearls*.

²⁸ Reich and Sidel, “Napalm,” *New England Journal of Medicine*, p. 87.

²⁹ Serdar M. Degirmencioglu, “The Psychology of Napalm: Whose Side are Psychologists on?,” *Journal of Critical Psychology, Counselling and Psychotherapy*, vol. 10 (2010), p. 197; Reich and Sidel, “Napalm,” *New England Journal of Medicine*, p. 87; Benjamin Ruiz Loyola, “Smoke and Incendiary Weapons,” *LOJ Pharmacology and Clinical Research*, vol. 1 (2019), p. 78.

³⁰ Human Rights Watch, *Rain of Fire: Israel’s Unlawful Use of White Phosphorus in Gaza* (New York: Human Rights Watch, 2009), <https://www.hrw.org/sites/default/files/reports/iopto309webwcover.pdf>, p. 46-47.

said the children she treated from Urum al-Kubra “were scared and they were in agony,” and their parents were “deeply traumatized.” She recalled a man “begging for us to help his daughter,” who was “howling in pain and calling for her father. The sounds are in my ears still.... It was awful.”³¹

White Phosphorus

Although not covered by CCW Protocol III’s definition of incendiary weapons, white phosphorus is notorious for the severity of the injuries it causes. “White phosphorus burns are much more lethal than normal burns,” according to Amnesty International’s senior crisis response advisor Donatella Rovera, who documented the white phosphorus attacks in Gaza in 2009.³² If they cover just 10 to 15 percent of a person’s TBSA, white phosphorus burns can cause sudden death.³³ They are also especially deep, often to the bone, and therefore take longer to heal than other types of burns.³⁴ Photographs of Razia after her arrival at the Bagram Air Base hospital show that white phosphorus burned through her scalp to her skull; the substance also burned away some of the young girl’s nerves and hair.³⁵ Similarly, the depth of one man’s injury gave Dr. Nafiz Abu Sha’ban of al-Shifa Hospital in Gaza a clue that the burns he was treating were from white phosphorus.³⁶

Even when it might appear that medical personnel have controlled the immediate dangers of white phosphorus, they often have not. White phosphorus can stick to the face, as it did in Razia’s case, or smolder inside the body, aggravating the initial burns over time.³⁷ After treating one survivor of a white phosphorus attack in Gaza, Dr. Abu Sha’ban told Human Rights Watch at the time, “We already excised burnt tissue and now his wounds are getting worse. When we saw him the first time the wounds were more superficial than they are

³¹ Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

³² Human Rights Watch-IHRC video interview with Donatella Rovera, senior crisis response advisor, Amnesty International, October 14, 2020.

³³ Aviv et al., “The Burning Issue of White Phosphorus: A Case Report and Review of the Literature,” *Disaster and Military Medicine*, p. 4; David J. Barillo, Leopoldo C. Cancio, and Cleon W. Goodwin, “Treatment of White Phosphorus and Other Chemical Burn Injuries at One Burn Center over a 51-year period,” *Burns*, vol. 30 (2004), p. 450.

³⁴ Barillo, Cancio, and Goodwin, “Treatment of White Phosphorus and Other Chemical Burn Injuries at One Burn Center over a 51-year period,” *Burns*, p. 450; Arieh Eldad et al., “Phosphorus Burns: Evaluation of Various Modalities for Primary Treatment,” *Journal of Burn Care & Rehabilitation*, vol. 16 (1995), p. 55.

³⁵ Straziuso and Vucci, “Burned Afghan Girl Learns to Smile Again,” *Associated Press*; Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

³⁶ Human Rights Watch, *Rain of Fire: Israel’s Unlawful Use of White Phosphorus in Gaza*, p. 38.

³⁷ Human Rights Watch video interview with Christine Collins, October 10, 2020 (on Razia); Eldad et al., “Phosphorus Burns: Evaluation of Various Modalities for Primary Treatment,” *Journal of Burn Care & Rehabilitation*, vol. 16 (1995), p. 49.

now. We've got to operate again tomorrow to excise more tissue.”³⁸ White phosphorus burns typically require longer hospital stays than other burn injuries that cover a similar percentage of the body due to their severity and the ability of white phosphorus to continue burning inside the body.³⁹

If they are not completely removed, remnants of white phosphorus can reignite after treatment because the substance burns when exposed to oxygen. Since dried white phosphorus passes through the digestive system, patients have even experienced “smoking stools.”⁴⁰ “How you get rid of [white phosphorus] is you literally have to cut it out. You literally have to surgically remove it,” said former US Air Force Capt. Christine Collins, a critical care nurse who treated Razia.⁴¹

The dangers of white phosphorus extend beyond its power to burn. Toxic to humans, white phosphorus can seep into the bloodstream through the skin, poisoning the kidneys, liver, and heart and causing multiple organ failure.⁴² People can die simply from inhaling white phosphorus.⁴³ The fumes released in white phosphorus attacks can also injure or severely irritate the eyes and make them highly sensitive to light.⁴⁴ Finally, exposure to white phosphorus can result in facial paralysis,⁴⁵ seizures,⁴⁶ and fatal heartbeat irregularities.⁴⁷

³⁸ Human Rights Watch, *Rain of Fire: Israel's Unlawful Use of White Phosphorus in Gaza*, p. 38.

³⁹ Eldad et al, “Phosphorus Burns: Evaluation of Various Modalities for Primary Treatment,” *Journal of Burn Care & Rehabilitation*, p. 49.

⁴⁰ Allison E. Berndtson et al., “White Phosphorus Burns and Arsenic Inhalation: A Toxic Combination,” *Journal of Burn Care & Research*, vol. 35 (2014), pp. e129.

⁴¹ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

⁴² Barqouni, Abu Shaban, and Elessi, “Interventions for Treating Phosphorus Burns (Review),” *Cochrane Database of Systematic Reviews*, p. 3.

⁴³ Ibid.

⁴⁴ Berndtson et al., “White Phosphorus Burns and Arsenic Inhalation: A Toxic Combination,” *Journal of Burn Care & Research*, pp. e129; Matthias Frank et al., “Not All that Glistens is Gold: Civilian White Phosphorus Burn Injuries,” *American Journal of Emergency Medicine*, vol. 26 (2008), p. 947.e5.

⁴⁵ Kemal T. Saracoglu et al., “Delayed Diagnosis of White Phosphorus Burns,” *Burns*, vol. 39 (2013), p. 825.

⁴⁶ Berndtson et al., “White Phosphorus Burns and Arsenic Inhalation: A Toxic Combination,” *Journal of Burn Care & Research*, p. e130.

⁴⁷ Trong-Duo Chou et al., “The Management of White Phosphorus Burns,” *Burns*, vol. 27 (2001), p. 496.

Long-Term Harm

Those who survive the initial injuries caused by incendiary weapons face a lifetime of suffering. “Unfortunately, for [burn] patients, it’s a never-ending battle, especially for those with [particularly large burns],” said Dr. Mehta of Brigham and Women’s Hospital.⁴⁸ According to Dr. Hallam, the British-Syrian doctor who treated victims from Urum al-Kubra, burns from incendiary weapons in particular “tend to kill you either immediately or pretty quickly, or you survive but with intense disability and the need for ongoing medical attention and care.”⁴⁹ Long-term physical harm includes chronic pain, skin damage, scars, and physical, visual, hearing, and other disabilities. Psychological and socioeconomic effects exacerbate the harm experienced by survivors and their families.

Chronic Pain and Skin Damage

Victims of incendiary weapons often endure severe and long-term pain.⁵⁰ Kim Phuc Phan Thi, the young Vietnamese girl who was captured fleeing from a 1972 napalm attack in Nick Ut’s famous photo, reported experiencing severe pain for decades after her initial injury.⁵¹ At an examination in 2015, more than four decades later, “it was apparent that the burning napalm that landed on her left shoulder had caused burns that covered roughly 40 percent of her body, leaving her in daily pain, which she rated still at 10,” on a scale of one to 10. The pain only subsided after a series of laser treatments that followed this exam.⁵² In addition to being traumatic in itself, pain can interfere with sleep.⁵³

Victims also suffer from the long-term effects of skin damage that can lead to excessive dryness and either hypersensitivity or loss of sensation. Collins, Razia’s primary nurse, said that incendiary weapons can destroy the oil glands and tiny hairs in the skin so that it becomes “like a piece of paper that has no ability to protect itself.”⁵⁴ As a result, patients

⁴⁸ Human Rights Watch-IHRC video interview with Dr. Anupama Mehta, October 14, 2020.

⁴⁹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

⁵⁰ See Tian et al., “Epidemiology and Outcome Analysis of Facial Burns: A Retrospective Multicentre Study 2011–2015,” *Burns*, p. 724.

⁵¹ Waibel, Phan Thi, and Hoenig, “Decades after Napalm Burns: Healing the Scars of the ‘Napalm Girl,’” *Journal of American Medical Association Dermatology*, p. 1228.

⁵² *Ibid.*

⁵³ Human Rights Watch-IHRC video interview with Dr. Jeffrey Schneider, October 21, 2020.

⁵⁴ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

have to engage in a time-consuming care routine consisting of frequent moisturizing.⁵⁵ Burn victims may also be sensitive to cold or heat.⁵⁶ A 2020 study of burn survivors found that a majority of patients reported that their skin became “more sensitive to heat after [getting burned].”⁵⁷ Patients with severe burn injuries often lose their sweat glands, making it more difficult for their bodies to regulate temperature, explained Dr. Jeffrey Schneider, program director of the Boston-Harvard Burn Injury Model System and medical director of Spaulding Rehabilitation Hospital’s Burn and Trauma Program.⁵⁸ In the most severe cases, patients lose sensation in certain areas altogether due to the loss of nerve endings.⁵⁹ Other related impacts include discolored skin⁶⁰ and a “long-term risk of malignant skin lesions in previously burned areas.”⁶¹

Physical and Other Disabilities and Scarring

The burns caused by incendiary weapons also cause lasting disabilities and severe scarring. According to a recent study, napalm commonly causes physical disabilities due to loss of mobility in affected parts of the victim’s body, and survivors often need extensive rehabilitation.⁶² Scar tissue and insufficient skin grafts produce contractures, which impede movement by restricting muscles and joints. Patients may also develop cysts on joints or hand bones that make mobility difficult.⁶³ Collins said that “it’s all of the things that most people take for granted: being able to bend over [or] bend backward.”⁶⁴ Dr. Nitzschke explained, “Especially for severely injured burn patients, we think that they are our patients for life. They are going to need touch-ups here and there as we manage their

⁵⁵ S. Al-Shaqsi et al., “Beyond Skin Deep: Understanding the Physical and Psychological Sufferings of Burn Survivors in the Sultanate of Oman,” *European Journal of Plastic Surgery*, vol. 43 (2020), p. 630.

⁵⁶ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

⁵⁷ Al-Shaqsi et al., “Beyond Skin Deep: Understanding the Physical and Psychological Sufferings of Burn Survivors in the Sultanate of Oman,” *European Journal of Plastic Surgery*, p. 630.

⁵⁸ Human Rights Watch-IHRC video interview with Dr. Jeffrey Schneider, October 21, 2020.

⁵⁹ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

⁶⁰ Tian et al., “Epidemiology and Outcome Analysis of Facial Burns: A Retrospective Multicentre Study 2011–2015,” *Burns*, p. 719

⁶¹ Berndtson et al., “White Phosphorus Burns and Arsenic Inhalation: A Toxic Combination,” *Journal of Burn Care & Research*, p. e130.

⁶² Guldner and Knight, “Napalm Toxicity,” *StatPearls*.

⁶³ Serdar Degirmencioglu, “The Psychology of Napalm: Whose Side are Psychologists on?” *Journal of Critical Psychology, Counselling and Psychotherapy*, p. 197.

⁶⁴ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020. In one study, burn patients “reported low scores in terms of hand function.” Al-Shaqsi et al., “Beyond Skin Deep: Understanding the Physical and Psychological Sufferings of Burn Survivors in the Sultanate of Oman,” *European Journal of Plastic Surgery*, p. 627.

contractures.”⁶⁵ While contractures can be treated by physical therapy or surgery when individuals have access to good health care, those opportunities are limited in areas of armed conflict.

Head, neck, and facial burns present extra challenges for burn victims. When the face is burned, dead cells and pus can cause nasal and ear passages to “abscess with unbearable pain to the patient.”⁶⁶ Survivors of burns to the head and neck sometimes struggle to swallow and speak with others,⁶⁷ and may require rehabilitative therapy to relearn how to eat.⁶⁸ Direct eye burns may also lead to the loss of one or both eyes,⁶⁹ and chronic eye dryness, such as that experienced by Razia, can become an ongoing issue. These burns can affect survivors’ taste, smell, hearing, and sight, altering their most basic experiences of the world.⁷⁰

Disparate Impacts on Children

Children, whose bodies are still developing, are especially vulnerable to the long-term consequences of incendiary weapon burns. Their growth may be stunted by the loss in skin elasticity because contractures reduce the skin’s malleability. As a child victim of an incendiary weapon burn grows, the skin becomes very tight. Dr. Hallam compared the development of contractures to having a “tight band” around one’s body that does not allow for stretching and further growth.⁷¹ Although some flexibility remains, the result, according to Dr. Hallam, is “greater disability compared to if [the patient had] already completed their growth.”⁷²

⁶⁵ Human Rights Watch-IHRC video interview with Dr. Stephanie Nitzschke, October 15, 2020.

⁶⁶ Serdar Degirmencioglu, “The Psychology of Napalm: Whose Side are Psychologists on?” *Journal of Critical Psychology, Counselling and Psychotherapy*, p. 197.

⁶⁷ Tian et al., “Epidemiology and Outcome Analysis of Facial Burns: A Retrospective Multicentre Study 2011–2015,” *Burns*, p. 719.

⁶⁸ Rosiane Alfinito Roeder and Carl I. Schulman, “An Overview of War-Related Thermal Injuries,” *Journal of Craniofacial Surgery*, vol. 21 (2010), p. 974.

⁶⁹ Serdar Degirmencioglu, “The Psychology of Napalm: Whose Side are Psychologists on?” *Journal of Critical Psychology, Counselling and Psychotherapy*, p. 197.

⁷⁰ Tian et al., “Epidemiology and Outcome Analysis of Facial Burns: A Retrospective Multicentre study 2011–2015,” *Burns*, p. 719.

⁷¹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

⁷² Ibid.

Cognitive and Psychological Harm

While the physical injuries associated with incendiary weapons are devastating by themselves, they are inextricably linked with cognitive and psychological harm. According to experts, burn injuries can result in lasting physical and other disabilities and have “a life-long impact” on psychological health.⁷³

The brain damage associated with severe burn injuries is linked to the physiological state of shock caused by an extensive loss of fluids. “The blood pressure [drops significantly] and affects vital organs, including the brain, so if someone is in the field for a long period of time without getting the resuscitation they need, such as intravenous fluids, [brain injuries] can happen,” said Dr. Schneider.⁷⁴ Burn victims may also suffer hypoxic injuries, particularly if they are in an enclosed space at the time they are burned. These injuries, which involve a decrease in the level of oxygen in the bloodstream, can have long-term cognitive consequences.⁷⁵

The mental health problems associated with burn injuries include but are not limited to anxiety, depression, post-traumatic stress disorder (PTSD), despondence, helplessness, and loneliness. Dr. Nitzschke found anxiety and depression to be especially common among survivors.⁷⁶ Such anxiety can stem from both the trauma of the burn incident and fear of the painful treatment.⁷⁷ “The anxiety of going through [treatment], knowing you will have to do that every day, can be what generates a lot of the mental health issues you see later,” Nitzschke said.⁷⁸ This anxiety, in turn, can make the pain worse.⁷⁹

⁷³ Hubert Neubauer et al., “Evaluation of an International Classification of Functioning, Disability and Health-Based Rehabilitation for Thermal Burn Injuries: A Prospective Non-Randomized Design,” *Trials*, vol. 20 (2019), p. 2.

⁷⁴ Human Rights Watch-IHRC video interview with Dr. Jeffrey Schneider, October 21, 2020.

⁷⁵ *Ibid.*

⁷⁶ Human Rights Watch-IHRC video interview with Dr. Stephanie Nitzschke, October 15, 2020.

⁷⁷ *Ibid.*

⁷⁸ *Ibid.*

⁷⁹ James Fauerbach, Shelley Weichman, and Shawn Mason with Model Systems Knowledge Translation Center, “Psychological Distress after Burn Injury,” 2016, <https://msktc.org/burn/factsheets/Psychological-Distress> (accessed October 27, 2020).

The lasting scars left by incendiary weapon burns, especially when they involve the face and other exposed body parts, can also cause emotional distress.⁸⁰ According to one study, “the pain caused by a devastating experience, functional and aesthetic impairment, and altered body image and social roles negatively impact the patient's essence, particularly his/her self-concept.”⁸¹ As a result of disabilities, victims may feel “greater dependency on others or the perception of being a burden. Because of the sense of impotence or helplessness, some of the survivors [of burn injuries] can predictably progress to a desire to die or to commit suicide.”⁸² Dr. Schneider said that patients with preexisting mental health issues or a lack of psychosocial support tend to be disproportionately affected psychologically.⁸³ Survivors in conflict zones face even greater challenges than ordinary burn victims because they have fewer resources and limited access to plastic surgery, which can reduce the impact of scarring.

Burn scars may disproportionately affect the mental health of and opportunities for women and girls.⁸⁴ Collins and AP reporter Rahim Faiez, both of whom kept in touch with Razia, expressed concerns about her prospects for marriage, which Afghan culture particularly values.⁸⁵ In October 2020, Razia’s father, Aziz, told Faiez that he feared no one would marry his daughter, who still lives with her parents.⁸⁶ Because there are higher expectations for women to look “beautiful,”⁸⁷ these burns can be particularly injurious toward the mental health of women. Another study found that “women are more vulnerable to the consequences of disfigurement” and that “[t]he higher incidence of symptoms of depression in women is related to altered body image.”⁸⁸

⁸⁰ Guldner and Knight, “Napalm Toxicity,” *StatPearls*; Al-Shaqsi et al., “Beyond Skin Deep: Understanding the Physical and Psychological Sufferings of Burn Survivors in the Sultanate of Oman,” *European Journal of Plastic Surgery*, p. 630; Tian et al., “Epidemiology and Outcome Analysis of Facial Burns: A Retrospective Multicentre Study 2011–2015,” *Burns*, p. 719.

⁸¹ Vahid Zamanzadeh et al., “Preserving Self-Concept in the Burn Survivors: A Qualitative Study,” *Indian Journal of Palliative Care*, vol. 21 (2015), p. 182, accessed October 27, 2020, doi:10.4103/0973-1075.156492.

⁸² *Ibid.*, p. 183.

⁸³ Human Rights Watch-IHRC video interview with Dr. Jeffrey Schneider, October 21, 2020.

⁸⁴ See, for example, Young Sook Roh et al., “Association between Depression, Patient Scar Assessment and Burn-Specific Health in Hospitalized Burn Patients,” *Burns*, vol. 38 (2012), p. 510, accessed October 27, 2020, doi:10.1016/j.burns.2011.12.027.

⁸⁵ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020; Human Rights Watch-IHRC video interview with Rahim Faiez, correspondent in Afghanistan, Associated Press, October 15, 2020.

⁸⁶ Human Rights Watch-IHRC video interview with Rahim Faiez, October 15, 2020.

⁸⁷ See, for example, Mohamad Kashmar et al., “Consensus Opinions on Facial Beauty and Implications for Aesthetic Treatment in Middle Eastern Women,” *Plastic and Reconstructive Surgery – Global Open*, vol. 7 (2019) p. 1-2, accessed October 27, 2020, doi:10.1097/GOX.0000000000002220.

⁸⁸ Roh et al., “Association between Depression, Patient Scar Assessment and Burn-Specific Health in Hospitalized Burn Patients,” *Burns*, p. 510.

Scars from severe burns can interfere with children’s development. “As kids are developing, they are developing their sense of self and who they are in the world,” Dr. Schneider explained. “To have something [like major scars], that affects how they feel as a person and their confidence in themselves and how they interact with other kids, can affect them deeply.”⁸⁹

Incendiary weapons can also affect the emotional and psychological health of the medical professionals who care for victims. In their interviews with Human Rights Watch and IHRC, the doctors and nurses who treated incendiary weapon injuries all described having had flashbacks to the experience.⁹⁰ Dr. Hallam said, “This event is really etched on my heart and mind and soul because I’ve never witnessed anything like that and I haven’t since.”⁹¹ When noting that the students who survived the Urum al-Kubra attack likely had PTSD, Dr. Ahsan added, “I expect I have it myself from the event, just from working there as a doctor.”⁹² Dr. Ahsan had previously deployed to Bosnia with the UK military and spent eight months in Libya, but said, “Syria stands alone in what I’ve seen and witnessed.”⁹³

Social and Economic Consequences

The physical and psychological harm described above can create obstacles to social inclusion for survivors of incendiary weapon attacks. Dr. Nitzschke explained that “[c]osmetically sensitive areas, the depth of burning leading to contracture and [decreased mobility], and then the total body surface area are the main factors for what creates a reason for why you may not integrate back into society.”⁹⁴ According to Dr. Schneider, burn injuries and scarring can have profound impacts on a survivor’s ability to “engage with the world around them.”⁹⁵ Dr. Schneider and his team at the Boston-Harvard Burn Injury Model System developed the Life Impact Burn Recovery Evaluation (LIBRE) tool, which identifies six social participation outcome domains that are affected by burn injuries: interaction

⁸⁹ Human Rights Watch-IHRC video interview with Dr. Jeffrey Schneider, October 21, 2020.

⁹⁰ Human Rights Watch-IHRC video interviews with Dr. Saleyha Ahsan, October 16, 2020, Dr. Rola Hallam, October 15, 2020, and Christine Collins, October 10, 2020.

⁹¹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

⁹² Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

⁹³ Ibid.

⁹⁴ Human Rights Watch-IHRC video interview with Dr. Stephanie Nitzschke, October 15, 2020.

⁹⁵ Human Rights Watch-IHRC video interview with Dr. Jeffrey Schneider, October 21, 2020.

with family and friends, sexual relationships, romantic relationships, social activities, social interactions, and work and employment.⁹⁶

Survivors with burns in exposed areas, notably the face and hands, have particular difficulties. Dr. Hallam, who treated children injured in the Urum al-Kubra incendiary weapon attack, said, “These scars are very visible and there is something about them that is naturally repulsive to so many people, so a lot of people become ostracized and distanced.... [T]here can often be the social isolation that develops alongside survivor’s guilt as well as the victim mentality of ‘Why me, why us?’”⁹⁷ Dr. Schneider notes that burn victims often “avoid other people. They stay home and don’t go out. They avoid interacting with strangers. Those sorts of things are silent issues that people don’t always know about.”⁹⁸ Such social challenges can have a drastic effect on the quality of life of burn survivors.⁹⁹

The burn injuries caused by incendiary weapons can interfere with children’s education. It can be physically dangerous for them to return to school if they still have open wounds, which make them subject to infection.¹⁰⁰ In addition, children with visible scars may be hesitant to return due to fears of facing other students. Because of her injuries, Razia “didn’t want to go to school. She didn’t want anybody at the school to bully her.”¹⁰¹ Despite living in a loving and supportive family, Razia has not learned to read.¹⁰² Children who experience burn injuries often need reasonable accommodations or modifications to participate in education on an equal basis with others. These kinds of accommodations, which could include physical adaptations of the classroom, breaks during the day, easy-to-read materials, or social-emotional support, are almost non-existent in conflict areas, making it very difficult, and sometimes impossible, for these children to return to school.

⁹⁶ Ibid. See also BMS National Data & Statistics Center, *Burn Model System Summary Report (1994–2019)*, 2020, [https://burndata.washington.edu/sites/burndata/files/files/2020BMS_Annual_Report\(1\).pdf](https://burndata.washington.edu/sites/burndata/files/files/2020BMS_Annual_Report(1).pdf) (accessed November 2, 2020).

⁹⁷ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

⁹⁸ Human Rights Watch-IHRC video interview with Dr. Jeffrey Schneider, October 21, 2020.

⁹⁹ Ibid.

¹⁰⁰ According to an article in the *Indian Journal of Plastic Surgery*, when burn survivors are undergoing treatment, the wounds are left open and are highly susceptible to infection. V K. Tiwari, “Burn Wound: How It Differs from Other Wounds?” *Indian Journal of Plastic Surgery*, vol. 45 (2012), p. 368, accessed October 27, 2020, doi:10.4103/0970-0358.101319. According to Dr. Nitzschke, children may be hospitalized for months after an injury and the ongoing care can last up to a year before they are ready to return back to school. Human Rights Watch-IHRC video interview with Dr. Stephanie Nitzschke, October 15, 2020.

¹⁰¹ Human Rights Watch-IHRC video interview with Rahim Faiez, October 15, 2020.

¹⁰² Ibid.

Dr. Schneider emphasized that “it is crucial for [a child’s] ultimate recovery” to have access to educational programs that accommodate their injuries and provide support for children navigating these challenges.¹⁰³ “In countries like the United States,” Dr. Schneider said, “schools are required to accommodate certain needs, and burn centers know about these things and can advocate for children survivors, so there are programs to help [students] reintegrate back to their schools.”¹⁰⁴ Unfortunately, these programs are unlikely to be available in places where the realities of armed conflict severely limit a community’s ability to address the needs of children survivors.

Survivors and their families may experience economic effects from incendiary weapons. Injuries can create obstacles to work. Many burn survivors are unable to resume their prior jobs or cannot find new ones; they may also face stigma from employers.¹⁰⁵ Depression, trauma, and anxiety can all reduce professional interest or drive.¹⁰⁶ The cost of ongoing treatment can also drain financial resources.

In addition, incendiary weapons cause property damage. In January 2009, for example, white phosphorus shells hit the UN headquarters in Gaza, and the attack “basically completely destroyed a large stock of food and medicines.... [T]he impact was significant.”¹⁰⁷ Amnesty International’s Donatella Rovera said, “It’s not to be underestimated the harm to property and the level of destruction that [fire from white phosphorus] causes.”¹⁰⁸ There have also been reports of incendiary weapons burning farmland in Syria.¹⁰⁹

¹⁰³ Human Rights Watch-IHRC video interview with Dr. Jeffrey Schneider, October 21, 2020.

¹⁰⁴ *Ibid.*

¹⁰⁵ Michael Wrigley et al., “Factors Relating to Return to Work After Burn Injury,” *Journal of Burn Care & Rehabilitation*, vol. 16 (1995), <https://academic.oup.com/jbcr/article-abstract/16/4/445/4757654?redirectedFrom=fulltext> (accessed October 27, 2020), pp. 445–450.

¹⁰⁶ Fauerbach, Weichman, and Mason, “Psychological Distress after Burn Injury.”

¹⁰⁷ Human Rights Watch-IHRC video interview with Donatella Rovera, October 14, 2020.

¹⁰⁸ *Ibid.*

¹⁰⁹ An attack on May 25 in Khan Sheikhoun, Idlib, for example, left approximately 175,000 square meters of burned farmland, according to Human Rights Watch’s analysis of satellite imagery. “Russia/Syria: Flurry of Prohibited Weapons Attacks,” Human Rights Watch news release, June 3, 2019, <https://www.hrw.org/news/2019/06/03/russia/syria-flurry-prohibited-weapons-attacks>. See also Human Rights Watch video interview with Bassam Khabeih, photojournalist, October 8, 2020.

Challenges of Treatment

Burn injuries not only cause a range of physical, psychological, and socioeconomic harm, but are also especially difficult to treat. In the immediate aftermath of being injured, victims of severe burns frequently require “liters and liters of fluid,” breathing tubes, pain medication and sedatives, and feeding tubes to provide nutrition.¹¹⁰ Doctors also need to take care to prevent infection, shock, and organ failure.¹¹¹ The long-term treatment of burn victims, which involves repeated surgeries, physical therapy, and psychological care, has been described as “one of the most complex, time-consuming, and costly endeavors in rehabilitation medicine.”¹¹²

In civilian contexts, especially in developed countries, these medical treatments, while complex, are generally accessible to burn patients. Incendiary weapons are used in situations of armed conflict, however, and that environment significantly increases the obstacles to care. Research by Bishara S. Atiyeh, S.W.A. Gunn, and Shady Hayek underscores that distinction:

In civilian practice, with optimum resources available, every burn patient receives emergency care and the seriously injured are transferred to a burn unit facility with optimum resources. In the combat setting, the tactical situation, logistical limitations, or limited availability of health care personnel may necessitate reduction in the upper limits of what is considered optimal care.¹¹³

In describing the local medical response to the incendiary weapons attack in Urum al-Kubra, Dr. Hallam emphasized that people living in conflict zones “simply don’t have the

¹¹⁰ Human Rights Watch-IHRC video interviews with Dr. Anupama Mehta, October 14, 2020, and Dr. Stephanie Nitzschke, October 15, 2020.

¹¹¹ Human Rights Watch-IHRC video interview with Dr. Stephanie Nitzschke, October 15, 2020.

¹¹² Paul Thananopavarn and James J. Hill, “Rehabilitation of the Complex Burn Patient with Multiple Injuries or Comorbidities,” *Clinics in Plastic Surgery*, vol. 44 (2017): 695, accessed October 27, 2020, doi:10.1016/j.cps.2017.05.002.

¹¹³ Bishara Atiyeh, S.W.A. Gunn, and Shady N. Hayek, “Military and Civilian Burn Injuries During Armed Conflicts,” *Annals of Fires and Burn Disaster*, vol. 20 no. 4 (2007), p. 209.

luxury of a functioning healthcare system.”¹¹⁴ Attacks on healthcare infrastructure, which have been well documented in the Syrian conflict, exacerbate the problems of treating victims of incendiary weapons.¹¹⁵

Resource Shortages and Obstacles to Transport

Healthcare providers in conflict zones often have limited access to the supplies, equipment, and intensive care facilities that are necessary for the adequate treatment of incendiary weapon burns. These limitations can interfere with the ability of even highly skilled physicians to provide adequate care to incendiary weapon burn patients. Dr. Hallam encountered such challenges when she was treating the victims of the 2013 Aleppo attack. She told Human Rights Watch and IHRC, “I knew, as an intensive care physician, what I needed to do for these kids, but I didn’t have the supplies. I had the expertise and knowledge to do it, but not the supplies and the resources I needed [to provide adequate care]. They received woefully inadequate treatment by comparison.”¹¹⁶ While her medical resources were limited, she said, “in other places [in Syria], they wouldn’t even have the expertise to deal with [such an attack].”¹¹⁷

Poor infrastructure, the need to travel long distances to find proper health care, and the lack of professional medical transport also impede the delivery of essential care to incendiary weapon victims, especially during the critical first 24 hours.¹¹⁸ Friends, neighbors, and passersby are often the ones who take incendiary weapon victims to medical care centers.¹¹⁹ Dr. Ahsan, who worked with Dr. Hallam after the Urum al-Kubra

¹¹⁴ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020; Bishara S. Atiyeh and Shady N. Hayek, “Management of War-Related Burn Injuries: Lessons Learned from Recent Ongoing Conflicts Providing Exceptional Care in Unusual Places,” *Journal of Craniofacial Surgery* 21 (2010): 1533, accessed October 27, 2020, doi:10.1097/SCS.0b013e3181f3ed9c.

¹¹⁵ See, for example, “Syria: Government Air Strikes Closing Down Hospitals,” Human Rights Watch news release, August 11, 2016, <https://www.hrw.org/news/2016/08/11/syria-government-airstrikes-closing-down-hospitals>; Human Rights Watch, “*Targeting Life in Idlib: Syrian and Russian Strikes on Infrastructure*” (October 2020), <https://www.hrw.org/report/2020/10/15/targeting-life-idlib/syrian-and-russian-strikes-civilian-infrastructure>, pp. 48-77.

¹¹⁶ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

¹¹⁷ Ibid.

¹¹⁸ Atiyeh, Gunn, and Hayek, “Military and Civilian Burn Injuries during Armed Conflicts,” *Annals of Fires and Burn Disaster*, p. 210; Atiyeh and Hayek, “Management of War-Related Burn Injuries: Lessons Learned from Recent Ongoing Conflicts Providing Exceptional Care in Unusual Places,” *Journal of Craniofacial Surgery*, p. 1536. See also Human Rights Watch-IHRC video interview with Dr. Stephanie Nitzschke, October 15, 2020.

¹¹⁹ Atiyeh and Hayek, “Management of War-Related Burn Injuries: Lessons Learned from Recent Ongoing Conflicts Providing Exceptional Care in Unusual Places,” *Journal of Craniofacial Surgery*, p. 1529.

attack, recalled that “patients were being rushed in by whatever means possible.”¹²⁰ After the patients were stabilized with fluids and painkillers, they were driven about six hours, across the border, to Turkish hospitals. Dr. Hallam said:

We wanted to send [the survivors] in [equipped] ambulances, but we couldn’t. We sent them in the backs of vans, and very few of them had medical escorts. This is, again, another tragedy of treating patients in a warzone. You would usually transfer [patients] in fully equipped, critical care vehicles with personnel who were critical care trained. Instead, we sent them with their parents or anyone we could find [to get them to Turkey].¹²¹

Limited Medical Personnel

Shortages of medical personnel also exacerbate the harm from incendiary weapons. Prior to or during transport to healthcare centers, the vast majority of victims of conflict-related burns likely receive “some form of basic first aid administered by relatives, friends, or other first responders not trained for such interventions.”¹²² Because these first responders are not typically specialists in burn care, their priorities are “not focused on stabilization but rather evacuation to the place of definitive care.”¹²³

There are also a limited number of medical professionals at conflict-zone hospitals, let alone those with the requisite training needed to properly care for burn patients. In Syria, for example, Dr. Hallam notes that the state is far behind in terms of achieving the World Health Organization’s minimum threshold of 23 healthcare workers per 10,000 people for child health services.¹²⁴ “[T]he provision of burn care in many conflict zones is basic and limited, often with no specialists,” says Dr. Ahsan.¹²⁵ This reality is especially troubling given that complex burn injuries usually require “an interdisciplinary effort in which the

¹²⁰ Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

¹²¹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

¹²² Atiyeh and Hayek, “Management of War-Related Burn Injuries: Lessons Learned from Recent Ongoing Conflicts Providing Exceptional Care in Unusual Places,” *Journal of Craniofacial Surgery*, p. 1531.

¹²³ *Ibid.*, p. 1532.

¹²⁴ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020. See also World Health Organization, “Achieving the Health-Related MDGs. It Takes a Workforce!” undated, https://www.who.int/hrh/workforce_mdgs/en/ (accessed October 27, 2020).

¹²⁵ Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

stabilization, reconstruction, and rehabilitation process is carefully planned among the burn physicians, nurses, therapists, social workers, and other support services.”¹²⁶ Moreover, casualty overloads that are common in situations of armed conflict have the potential to create bottlenecks in the treatment process.¹²⁷ These bottlenecks, in turn, can force healthcare professionals to make difficult decisions in triage.¹²⁸

Doctors with the requisite expertise often do not have access to information that allows them to identify burns specifically caused by incendiary weapons. Dr. Hallam described her medical team’s confusion when their patients first arrived at al-Atarib Hospital: “We didn’t know what we were dealing with because we didn’t have any intel. [The children] were just covered in a weird, white dust, they had singed flesh, and [there was] a synthetic smell in the air, so we didn’t really know what was happening.”¹²⁹ Rovera said that the doctors who treated victims of the 2009 white phosphorus attack in Gaza were similarly confused at the outset of their treatment. “None of these doctors ever had to deal with [burns caused by white phosphorus], so they had no idea. They treated [the injuries] as normal burns [at first], so very precious time was lost.”¹³⁰ This lack of information and understanding can be detrimental to the treatment of incendiary burn victims, as “good management of burn injuries during armed conflicts starts with a good understanding of the mechanisms of injury and the properties and characteristics of the offending agents.”¹³¹

Continuity of Care

Gaps in the continuity of care often create additional problems for victims of incendiary weapons. Patients are frequently treated by various medical professionals in the acute treatment phase, and there is poor documentation of the care provided, making it difficult for succeeding healthcare workers to identify what other problem areas need to be

¹²⁶ Thananopavarn and Hill, “Rehabilitation of the Complex Burn Patient with Multiple Injuries or Comorbidities,” *Clinics in Plastic Surgery*, p. 695.

¹²⁷ Atiyeh, Gunn, and Hayek, “Military and Civilian Burn Injuries during Armed Conflicts,” *Annals of Fires and Burn Disaster*, p. 210.

¹²⁸ Atiyeh and Hayek, “Management of War-Related Burn Injuries: Lessons Learned from Recent Ongoing Conflicts Providing Exceptional Care in Unusual Places,” *Journal of Craniofacial Surgery*, p. 1531.

¹²⁹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

¹³⁰ Human Rights Watch-IHRC video interview with Donatella Rovera, October 14, 2020.

¹³¹ Atiyeh, Gunn, and Hayek, “Military and Civilian Burn Injuries during Armed Conflicts,” *Annals of Fires and Burn Disaster*, p. 204.

addressed.¹³² The fragmented nature of communication across various healthcare providers “at the different echelons of care” makes it difficult to track the progress of treatment.¹³³

Continuity of care is also important for addressing “chronic medical issues” associated with burn injuries. According to Dr. Schneider, “Those issues don’t go away so easily. [Typically, burn survivors] are long-term patients that end up being followed by a clinical team for a long time.”¹³⁴ Victims of incendiary weapons who remain in areas of armed conflict are unlikely to have access to such ongoing monitoring and care.

Care for Other Injuries

Healthcare professionals in conflict zones usually have many other types of injuries to address. Incendiary weapon burns are “unlikely to be the only trauma” requiring medical attention.¹³⁵ Rovera said that healthcare workers on the ground in Gaza in 2009 were “stretched thin because they weren’t just responding to [incendiary weapon burn injuries]... [The healthcare system] was challenged to the extreme by the overall level of conflict.”¹³⁶ Additionally, burns are considered a “distracting injury,” because their treatment can sometimes make it difficult to identify and diagnose secondary injuries.¹³⁷ For example, the “treatment with narcotics of pain secondary to burns may make the clinical diagnosis of associated injuries such as spinal injury rather difficult.”¹³⁸

The psychological harm associated with incendiary weapons receives even less attention than the acute physical harm. Dr. Hallam explained, “In burns therapy, the [psychological] rehabilitation is important because the mental health and trauma effects of burns are such a huge aspect of [these injuries].”¹³⁹ Because of the extent to which wars can cause severe physical injuries, however, psychological support is often deprioritized and poorly funded

¹³² Atiyeh and Hayek, “Management of War-Related Burn Injuries: Lessons Learned from Recent Ongoing Conflicts Providing Exceptional Care in Unusual Places,” *Journal of Craniofacial Surgery*, p. 1532.

¹³³ Ibid.

¹³⁴ Human Rights Watch-IHRC video interview with Dr. Stephanie Nitzschke, October 15, 2020.

¹³⁵ Atiyeh, Gunn, and Hayek, “Military and Civilian Burn Injuries during Armed Conflicts,” *Annals of Fires and Burn Disaster*, p. 208.

¹³⁶ Human Rights Watch-IHRC video interview with Donatella Rovera, October 14, 2020.

¹³⁷ Atiyeh, Gunn, and Hayek, “Military and Civilian Burn Injuries during Armed Conflicts,” *Annals of Fires and Burn Disaster*, p. 208.

¹³⁸ Ibid.

¹³⁹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

in areas of armed conflict.¹⁴⁰ This deprioritization creates a large gap in the treatment of incendiary weapon burn patients, leaving a key aspect of their medical care largely unmet.

Creating Different Outcomes for Civilians in Conflict

All of these factors play a role in the disparate levels of care and outcomes for burn injuries between civilian and combat environments. This reality frustrates medical practitioners who treat victims of incendiary weapons. “[Incendiary weapons] create deep, ongoing disabilities, and the medical system [in Syria] is not equipped to deal with that. A lot of [the survivors] are having to live with disabilities that otherwise can be rehabilitated. They live with greater disability than their counterparts in other places,” said Dr. Hallam.¹⁴¹ Dr. Ahsan shared similar sentiments: “I [remember] thinking, ‘Oh, my God, I just wish I was at my hospital in London with this child. How different it would be if I could just scoop them up and take them there right now, right this second’.... I was enraged and disgusted.”¹⁴²

Effects on Medical Personnel

The effects of incendiary weapons have also endangered medical personnel. Due to the tendency of white phosphorus to reignite, when medical staff remove dressings, flames may leap from wounds still containing the substance.¹⁴³ An article in the journal *The Lancet* described the case of an 18-year-old Gaza man admitted to a hospital after the 2009 white phosphorus attack. When staff discovered white smoke “emanating from [his] wounds,” they transferred him to the operating room to clean the wounds and remove any dead skin around them.¹⁴⁴ During this process, a dislodged white phosphorus particle burned a nurse’s neck.¹⁴⁵ Other incendiary materials, including napalm, can cause temperatures to rise to a level that is detrimental to the health of not only the direct victims but also the rescue workers, who become vulnerable to heat stroke.¹⁴⁶ Finally, as discussed above, the experience of treating victims of incendiary weapons can traumatize their caregivers.

¹⁴⁰ Ibid.

¹⁴¹ Ibid.

¹⁴² Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

¹⁴³ Berndtson et al., “White Phosphorus Burns and Arsenic Inhalation: A Toxic Combination,” *Journal of Burn Care & Research*, p. e129; Johnathan C. Conner and Vikhyat S. Bebarta, “White Phosphorus Dermal Burns,” *New England Journal of Medicine*, vol. 357 (2007), p. 1530, accessed October 27, 2020, doi:10.1056/NEJMicmo61897.

¹⁴⁴ Loai Nabil Al Barqouni et al., “White phosphorus Burn,” *The Lancet*, vol. 376 (2010), p. 68, accessed October 27, 2020, [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(10\)60812-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)60812-4/fulltext).

¹⁴⁵ Ibid.

¹⁴⁶ Reich and Sidel, “Napalm,” *New England Journal of Medicine*, p. 87.

Case Studies

Three case studies from Gaza, Afghanistan, and Syria illustrate the human cost of the use of incendiary weapons. They reveal the horrific injuries inflicted on individuals, the lasting physical and mental effects, and the extensive treatment required to care for victims. This unacceptable harm is the same whether it comes from white phosphorus or the incendiary weapons covered by Protocol III, and whether the weapons are delivered by air or ground.

Gaza 2009: The Abu Halima Family

On the afternoon of January 4, 2009, three 155mm artillery shells containing white phosphorus fired by Israeli forces amid hostilities with Palestinian armed groups smashed through the roof of the Abu Halima family's home in Sifa, an area near Beit Lahiya in the northern part of the Gaza Strip.¹⁴⁷ At least a dozen members of the family ranging in age from 6 months to 45 years were home at the time, including Sa'dallah Abu Halima, 45, and Sabah Abu Halima, 44, nine children, one daughter-in-law, and two grandchildren.¹⁴⁸ As Ahmad Abu Halima, the 22-year-old son of Sa'dallah and Sabah, reported, "The explosion was large and the smell unbearable. It caused a big fire. The pieces ... of white phosphorus were burning and we could not put them out."¹⁴⁹ Muhammad, the couple's 24-year-old son, said, "We cried and shouted and called out to neighbors to help us, but no one could come near and save us because the Israeli army was about 100 meters away and shooting at anyone who approached."¹⁵⁰

The effects of this incident exemplify the significant physical and psychological harm caused by white phosphorus and the use of ground-launched incendiary weapons in concentrations of civilians. The case study draws on the field research of Human Rights Watch, Amnesty International, and the Israeli rights group B'Tselem at the time and 10 years later.

¹⁴⁷ Human Rights Watch, *Rain of Fire: Israel's Unlawful Use of White Phosphorus in Gaza*, p. 49; Amnesty International, *Operation "Cast Lead": 22 Days of Death and Destruction* (London: Amnesty International, 2009), <https://www.amnesty.org/en/documents/MDE15/015/2009/en/> (accessed November 3, 2020) pp. 28-29.

¹⁴⁸ Human Rights Watch, *Rain of Fire: Israel's Unlawful Use of White Phosphorus in Gaza*, pp. 49-51.

¹⁴⁹ *Ibid.*, p. 50.

¹⁵⁰ B'Tselem, *Just the Tip of the Iceberg: One Victim a Year, Times Thirty Years* (2019), https://www.btselem.org/sites/default/files/publications/30_years_just_the_tip_of_the_iceberg_eng.pdf (accessed October 27, 2020).

Five members of the Abu Halima family died in the attack, burned alive in the fire caused by white phosphorus-soaked wedges. Muhammed said he found the bodies of his father and brothers ‘Abd a-Rahim, 14, Zeid, 11, and Hamzah, 10, completely charred.¹⁵¹ Sabah had been nursing her 15-month-old daughter when “[e]verything caught fire. My husband and four of my children burned alive in front of my eyes; my baby girl ... my only girl, melted in my arms. How can a mother have to see her children burn alive? I couldn’t save them. I couldn’t help them.”¹⁵²

The flames from the white phosphorus set the clothes of Muhammed’s wife, Ghada, 21, and their 2-year-old daughter, Farah, on fire. In an interview with B’Tselem at al-Shifa Hospital five days after the attack, Ghada said, “I ripped the clothes off my body and cried out that I was burning. I was naked in front of everybody in the house.... [T]he pain was excruciating. I could smell my flesh burning.”¹⁵³ The injuries were extensive and likely had a high TBSA. Ghada reported that her “whole body was burned.”¹⁵⁴ Muhammad later told B’Tselem that Ghada was transferred to an Egyptian hospital, where she “underwent a series of treatments including surgery, disinfection of the burns, and skin grafts.”¹⁵⁵ Ghada died nearly three months after the attack because, as the doctors told Muhammad, “a chain interaction had been triggered in her body by the [white] phosphorus, shutting down her cells.”¹⁵⁶

Several other members of the family were also severely burned. Sa’dallah and Sabah’s sons, Yusef, 16, and ‘Ali, 5, were burned on the face and back respectively.¹⁵⁷ Farah, their granddaughter, reportedly had third-degree burns.¹⁵⁸ According to Dr. ‘Alaa ‘Ali of al-Shifa Hospital’s burn unit, Sabah herself “had very deep burns that reached the bone, and in

¹⁵¹ Human Rights Watch, *Rain of Fire: Israel’s Unlawful Use of White Phosphorus in Gaza*, p. 51. See also B’Tselem, *Just the Tip of the Iceberg: One Victim a Year, Times Thirty Years*.

¹⁵² Amnesty International, *Operation “Cast Lead”: 22 Days of Death and Destruction*, p. 28.

¹⁵³ B’Tselem, “Testimony: Members of Abu Halima family killed and burned in army’s bombing of their house, 4 January 2009,” undated, https://www.btselem.org/testimonies/20090104_abu_halima_home_set_on_fire_by_shelling (accessed October 15, 2020).

¹⁵⁴ Ibid.

¹⁵⁵ B’Tselem, *Just the Tip of the Iceberg: One Victim a Year, Times Thirty Years*.

¹⁵⁶ B’Tselem, “Testimony: Members of Abu Halima family killed and burned in army’s bombing of their house, 4 January 2009”; B’Tselem, *Just the Tip of the Iceberg: One Victim a Year, Times Thirty Years*.

¹⁵⁷ Human Rights Watch, *Rain of Fire: Israel’s Unlawful Use of White Phosphorus in Gaza*, pp. 48-50.

¹⁵⁸ B’Tselem, “Testimony: Members of Abu Halima family killed and burned in army’s bombing of their house, 4 January 2009.”

some places even burned the bone.”¹⁵⁹ As Sabah told Amnesty International shortly after the attack, “I was on fire. Now I am still burning all over, I am in pain day and night; I am suffering terribly.”¹⁶⁰

The incident also scarred the survivors emotionally and psychologically. “Seeing the family like that was terrifying,” Muhammad told B’Tselem a decade later.¹⁶¹ “The horrible memories are always with me, and especially the sight of my baby sister Shahd.... What did she do to be killed like that? She was our only sister. I remember the joy we all felt when my mother finally had a girl. I remember how my mother cried with happiness. I wish Shahd were with me now. I could have had a sister like other people, I could have played and laughed with her, and bought her clothes and toys. Shahd was an angel on earth, so beautiful. She was the joy of the household.”¹⁶²

Afghanistan 2009: Razia

Shortly after Razia’s family finished breakfast on March 14, 2009, two white phosphorus shells crashed into their mud-brick home.¹⁶³ Fire and smoke consumed the house, immediately killing two of Razia’s sisters as they slept side by side. The attack wounded Razia’s father, Aziz, her mother, and a few of Razia’s other siblings. Aziz reported, “The sound of the blast was very strong, and I was almost unconscious. I couldn’t think. My children were shouting at me: ‘Wake up! You’re burning!’” Wrapped in flames, 8-year-old Razia ran to Aziz.¹⁶⁴ He held Razia close to him, and when he lifted his hand, the top of his daughter’s scalp and part of her face peeled off like a mask.¹⁶⁵ A US military spokeswoman said that in this case it was unclear whether NATO troops or the Taliban had fired the shell, acknowledging that “[e]ither scenario is possible, and equally regrettable.”¹⁶⁶

¹⁵⁹ Human Rights Watch, *Rain of Fire: Israel’s Unlawful Use of White Phosphorus in Gaza*, p. 52.

¹⁶⁰ Amnesty International, *Operation “Cast Lead”: 22 Days of Death and Destruction*, p. 28.

¹⁶¹ B’Tselem, *Just the Tip of the Iceberg: One Victim a Year, Times Thirty Years*.

¹⁶² *Ibid.*

¹⁶³ Human Rights Watch-IHRC video interview with Rahim Faiez, October 15, 2020; Rahim Faiez, “Afghan Girl Burned by White Phosphorus Heads Home,” *Associated Press*, June 24, 2009, http://archive.boston.com/news/world/asia/articles/2009/06/24/afghan_girl_burned_by_white_phosphorus_heads_home/ (accessed October 16, 2020); Straziuso and Vucci, “Burned Afghan Girl Learns to Smile Again,” *Associated Press*.

¹⁶⁴ Human Rights Watch-IHRC video interview with Rahim Faiez, October 15, 2020; Straziuso and Vucci, “Burned Afghan Girl Learns to Smile Again,” *Associated Press*.

¹⁶⁵ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

¹⁶⁶ Straziuso and Vucci, “Burned Afghan Girl Learns to Smile Again,” *Associated Press*. See also “Afghanistan: NATO Should ‘Come Clean’ on White Phosphorus,” Human Rights Watch news release, May 8, 2009, <http://www.hrw.org/en/news/2009/05/08/afghanistan-nato-should-come-clean-white-phosphorus>.

Razia's story underscores the intense human suffering white phosphorus inflicts, both in the short-term and the long-term, as well as the difficulties of treating white phosphorus burns. This case study is based on media reports from the time of Razia's hospitalization and recent interviews by Human Rights Watch and IHRC researchers. In particular, we spoke with two Associated Press (AP) reporters who covered Razia's story, one of whom has remained in contact with Razia's family. We also interviewed the primary care nurse who cared for Razia throughout most of her hospitalization and has maintained periodic contact with Razia's family. Razia and her father respectfully declined to be interviewed for this report.

After the attack, Aziz brought Razia to a local Afghan army base, which could do little to help them.¹⁶⁷ A private Afghan vehicle drove them to a nearby French base as Aziz poured water on Razia's face whenever he saw her losing consciousness.¹⁶⁸ The French base was unable to provide adequate medical assistance and called for a medivac helicopter to transport her to the US hospital at Bagram Air Base.¹⁶⁹ When Medic Sgt. Stephen Park arrived in the helicopter, he saw Razia's "head to waist" burns and wondered if she was still alive.¹⁷⁰ Park recalled, "It was intense, very emotional. When we got [to Bagram] I think even all the ER [emergency room] staff and all the doctors and nurses didn't think she was going to make it."¹⁷¹ Although burns covered 40 to 45 percent of her body, Razia ultimately survived with the help of extensive and painstaking medical care.

Unbeknownst to the US military medical team, Razia still had white phosphorus on her face and in her throat. When they placed an oxygen mask over her mouth, the oxygen reignited the white phosphorus and the mask quickly melted. As the doctors attempted to scrape the dead tissue from what remained of Razia's skin, flames jumped out of her wounds.¹⁷²

¹⁶⁷ Human Rights Watch-IHRC video interview with Rahim Faiez, October 15, 2020; Straziuso and Vucci, "Burned Afghan Girl Learns to Smile Again," *Associated Press*.

¹⁶⁸ Straziuso and Vucci, "Burned Afghan Girl Learns to Smile Again," *Associated Press*.

¹⁶⁹ Human Rights Watch-IHRC video interview with Rahim Faiez, October 15, 2020; Straziuso and Vucci, "Burned Afghan Girl Learns to Smile Again," *Associated Press*.

¹⁷⁰ Straziuso and Vucci, "Burned Afghan Girl Learns to Smile Again," *Associated Press*.

¹⁷¹ *Ibid.*

¹⁷² Human Rights Watch-IHRC video interviews with Christine Collins, October 10, 2020, and Rahim Faiez, October 15, 2020; Straziuso and Vucci, "Burned Afghan Girl Learns to Smile Again," *Associated Press*.

When Capt. Christine Collins volunteered for the role of Razia’s primary nurse three or four weeks after the attack, Razia still required round-the-clock medical care. Razia needed regular antibiotics to prevent infection and could not eat because the burns on her face restricted her mouth’s movement. One of her eyes could no longer close, so to sleep, Razia would roll her eyeball downwards. Her body’s range of motion had diminished significantly due to burns that covered her face, head, neck, chest, and arms.¹⁷³ As Collins cleaned Razia for the first time, a dead piece of Razia’s ear fell into the nurse’s hand.¹⁷⁴ Doctors performed more than 15 surgeries, including skin graft procedures, over the next three months to both save and rehabilitate Razia.¹⁷⁵

In the early days after the attack, Razia appeared to suffer a great deal emotionally. Aziz told Collins and AP reporter Rahim Faiez that Razia was lighthearted and rambunctious before the attack.¹⁷⁶ She liked to play outside with her brothers and did not mind getting dirty, Collins recalled Aziz saying.¹⁷⁷ But in the aftermath of the incident, Razia had grown quieter and more reserved.¹⁷⁸ Initially, “Razia was extremely unresponsive to all the medical staff,” Collins told Human Rights Watch and IHRC.¹⁷⁹ She had been affected by the loss of two sisters and her home and the excruciating burns over almost half her body. She had also spent a month in a foreign hospital where no one spoke her language, with only her father able to visit her, lying in the same bed and staring at the same wall “day in and day out.”¹⁸⁰

Collins and her team succeeded in connecting with Razia and bringing flickers of happiness back into her life, but it required personal attention and extensive care that most incendiary weapon victims do not have access to. Recognizing that Razia, who had not seen her mother since the attack, needed the comfort of human touch, Collins and a few other hospital staff members gingerly lifted Razia from the bed and carried her to a rocking chair. “I rocked her for a couple of hours and was singing to her. And that made a

¹⁷³ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020; Straziuso and Vucci, “Burned Afghan Girl Learns to Smile Again,” *Associated Press*.

¹⁷⁴ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

¹⁷⁵ Human Rights Watch-IHRC video interviews with Christine Collins, October 10, 2020, and Rahim Faiez, October 15, 2020; Straziuso and Vucci, “Burned Afghan Girl Learns to Smile Again,” *Associated Press*.

¹⁷⁶ Human Rights Watch-IHRC video interviews with Christine Collins, October 10, 2020, and Rahim Faiez, October 15, 2020.

¹⁷⁷ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

¹⁷⁸ Human Rights Watch-IHRC video interviews with Christine Collins, October 10, 2020, and Rahim Faiez, October 15, 2020.

¹⁷⁹ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

¹⁸⁰ *Ibid.*

massive shift in how she was going to respond to treatment. It was one of those life-changing experiences.”¹⁸¹ Although “it took a long time for her to come out of her shell” with the nurses, eventually “she wasn’t afraid to let you know, yeah, I’m not doing this today with you,” Collins said.¹⁸² The nurses tried to cheer her up by filling her room with balloons and painting her nails bright pink; Collins’s husband sent Razia boxes full of gifts and paintings from Collins’s three young daughters.¹⁸³ Razia even learned how to say “ice cream” in English.¹⁸⁴ Slowly, she regained the ability to walk and even run.¹⁸⁵ Nevertheless, Collins recalled, “She cried a lot because she was in pain. This whole thing had taken over her life at such a young age.”¹⁸⁶

Despite numerous surgeries, Razia’s appearance was forever altered by the burns. In May or June, Collins saw Razia looking at herself in the mirror for the first time since the attack. “She didn’t say anything. She looked at herself, touched her face, and just turned around and walked away.”¹⁸⁷ In photos of Razia from 2016, the scarring and damage to her eye are still visible.

On June 24, more than three months after the attack, Razia left the hospital in Bagram. The medical staff gathered to say goodbye, and “everybody was crying.”¹⁸⁸ She walked out of the hospital with her father, wearing a wig from her pediatrician and saying, “I am fine. I want to go home.”¹⁸⁹ Collins remarked, “It was a long journey for both her and I.”¹⁹⁰

The journey that began with the white phosphorus attack did not end there. Since Razia’s house had burned to the ground, her family moved in with relatives in the same village. The relatives soon warned Aziz, however, that his family was no longer safe, so the family fled to Kabul. A former homeowner who ran a popular vegetable shop in the village, Aziz

¹⁸¹ Ibid.

¹⁸² Ibid.

¹⁸³ Ibid.

¹⁸⁴ Human Rights Watch-IHRC video interview with Rahim Faiez, October 15, 2020; Straziuso and Vucci, “Burned Afghan Girl Learns to Smile Again,” *Associated Press*.

¹⁸⁵ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid.

¹⁸⁸ Rahim Faiez, “Afghan Girl Burned by White Phosphorus Heads Home,” *Associated Press*.

¹⁸⁹ Ibid.

¹⁹⁰ Ibid.

now rented a home in the most expensive city in Afghanistan and needed a new job.¹⁹¹ Razia did not attend school in Kabul.¹⁹² Aziz told Faiez he cannot afford mental health services or plastic surgery for his daughter.¹⁹³

Because of the long-term physical injuries the white phosphorus inflicted, Razia needed to undergo another surgery, several years after she left Bagram. Because of the burns on Razia's neck, her head and chest had fused too close together, making it challenging for Razia to move her neck and speak. Around 2014, Faiez helped arrange for Razia to spend six months in Germany. There, she underwent surgery to separate her neck from her chest, which enabled her to move her head and speak more easily.¹⁹⁴

Razia must still grapple with the psychological and social effects of her injuries, too. "I can't imagine how difficult it will be for Razia because Razia's face is completely burned down on one side and she doesn't have any hair on almost all of her head," Faiez told Human Rights Watch and IHRC.¹⁹⁵ Having seen Razia around the time she went to Germany for surgery, he described Razia as shy and withdrawn. More recently, Faiez said, "[h]er father was explaining that whenever there is an invitation for a wedding or family gathering, at the beginning she doesn't want to go. Her father and mother encourage her to go. But after she comes back, she doesn't seem good about it. Aziz says he talks with her for hours."¹⁹⁶

Razia and her story have also left a vivid impression on those who knew her. Jason Straziuso, who met Razia as an AP reporter, recently said, "I think this story resonates with me because it would resonate with anyone. We can all imagine the suffering of a child and believe that it shouldn't have been that way."¹⁹⁷ When asked about the white phosphorus that caused Razia's suffering, Collins reflected, in her personal capacity: "With those types of weapons, there has to be some kind of control. Absolutely, 100 percent."¹⁹⁸

¹⁹¹ Human Rights Watch-IHRC video interview with Rahim Faiez, October 15, 2020; Straziuso and Vucci, "Burned Afghan Girl Learns to Smile Again," *Associated Press*.

¹⁹² Human Rights Watch-IHRC video interview with Rahim Faiez, October 15, 2020.

¹⁹³ *Ibid.*

¹⁹⁴ *Ibid.*

¹⁹⁵ *Ibid.*

¹⁹⁶ *Ibid.*

¹⁹⁷ Human Rights Watch-IHRC video interview with Jason Straziuso, International Committee of the Red Cross media team leader and former Associated Press chief correspondent in Afghanistan, October 6, 2020.

¹⁹⁸ Human Rights Watch-IHRC video interview with Christine Collins, October 10, 2020.

Syria 2013: Urum al-Kubra

On August 26, 2013, Syrian government forces attacked a three-story building about 100 meters from Urum al-Kubra's Iqraa Institute, a school serving intermediate and secondary students in a town in the northern Aleppo governorate.¹⁹⁹ Muhammed Assi, then 18 years old, and other students hurried outside to see what had happened. "We saw a plane in the sky. It was very far away so we thought, 'OK, it won't hit us,'" Muhammed told Human Rights Watch and IHRC.²⁰⁰ Teachers urged the students to return inside where it was safer.²⁰¹ Muhammed and five classmates, however, stayed in the courtyard with a playground talking about the attack and what they would study the following year. The group suddenly heard a faint, "unfamiliar" sound, and "[t]here were large fires, and choking fumes."²⁰² An incendiary bomb had landed in the middle of the six students, immediately killing the other five. "The intensity of the explosion threw me a distance of about 3 to 4 meters from where the missile struck," Muhammed recounted. "We were surrounded by the fire. I used my hands to hit my head to try to snuff out the fire."²⁰³

This incident and Muhammed's story underscore the devastating injuries caused by the use of incendiary weapons in concentrations of civilians as well as their long-term physical, psychological, and social impacts. The experiences of the doctors at the local al-Atarib Hospital also highlight the challenges of treating victims of incendiary weapons in an armed conflict environment. The case study is based on recent Human Rights Watch-IHRC interviews with Muhammed Assi, with a teacher who witnessed the attack and preferred to remain anonymous, and with Dr. Saleyha Ahsan and Dr. Rola Hallam, both volunteers with the UK humanitarian organization Hand in Hand for Syria who treated the injured students that day. Human Rights Watch also interviewed Mustafa Haid, an activist who arrived on the scene in al-Atarib Hospital shortly after the attack.

¹⁹⁹ Human Rights Watch, "Syria's Use of Incendiary Weapons: Memorandum to Convention on Conventional Weapons Delegates," November 2013, https://www.hrw.org/sites/default/files/supporting_resources/201311_arms_syriaincendiarytext.pdf, pp. 12-13; Human Rights Watch-IHRC phone interview with Muhammed Assi, October 24, 2020; Human Rights Watch-IHRC phone interview with teacher (name withheld), October 28, 2020.

²⁰⁰ Human Rights Watch-IHRC phone interview with Muhammed Assi, October 24, 2020. See also Human Rights Watch-IHRC phone interview with teacher (name withheld), October 28, 2020.

²⁰¹ Human Rights Watch-IHRC phone interview with teacher (name withheld), October 28, 2020.

²⁰² Human Rights Watch-IHRC phone interview with Muhammed Assi, October 24, 2020.

²⁰³ Ibid.

The teacher recalled the horror of the scene. “I heard many of the students screaming. There was screaming everywhere,” he said.²⁰⁴ When teachers and students stepped outside of the school, they “saw the dead bodies of students, which was miserable. Other students had burns, but they were still conscious, they were speaking.” The teacher saw three burned students whom he could no longer recognize.²⁰⁵

Encircled by flames, Muhammed did not move for some time. “Time seems to stop when these things happen to you...,” he said. “[W]ords can’t describe my feelings, but I saw the fire completely surrounding me from everywhere, and when the breeze blew, it fed oxygen into the incendiary substance and made it burn even stronger.”²⁰⁶ Finally, a teacher told him they needed to leave. Muhammed remembered that as he began walking, he saw “many students laying on the ground, badly burned, trying to get someone to help them, and no one was helping them. Students were trying to break the windows and the glass with bare hands to get out without getting hurt.”²⁰⁷ Local civilians rushed him and others in a pickup truck to al-Atarib Hospital about 20 to 25 minutes away because there was no hospital in Urum al-Kubra.²⁰⁸

Shortly after the attack, the hospital was inundated by injured students.²⁰⁹ “It honestly looked like a scene out of Armageddon,” said Dr. Hallam. “They all came in in very similar ways. Their clothes [were] hanging off them. They had the awful smell of singed flesh added to a weird chemical synthetic smell.... It was very clear they had severe burns and one of the most alarming [things] was how little pain [some of them] seemed to be in, which is immediately a red flag for how extensive their burns were because we know that major burns are not painful.”²¹⁰

At first, the medical staff did not know the source of these patients’ severe burns and the white powder that covered them.²¹¹ After the chemical weapon attack on Ghouta about a

²⁰⁴ Human Rights Watch-IHRC phone interview with teacher (name withheld), October 28, 2020.

²⁰⁵ Ibid.

²⁰⁶ Human Rights Watch-IHRC phone interview with Muhammed Assi, October 24, 2020.

²⁰⁷ Ibid.

²⁰⁸ Ibid.; Human Rights Watch-IHRC phone interview with teacher (name withheld), October 28, 2020; Human Rights Watch phone interview with Mustafa Haid, October 27, 2020.

²⁰⁹ Human Rights Watch-IHRC video interviews with Dr. Rola Hallam, October 15, 2020, and Dr. Saleyha Ahsan, October 16, 2020.

²¹⁰ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

²¹¹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

week before, the doctors at al-Atarib Hospital feared they were treating injuries caused by a chemical of some kind.²¹² “We hosed them all down as they came in to stop burns and remove anything else that may be on them,” explained Dr. Hallam.²¹³ They were later told that the white powder covering the victims was actually dust from the impact of an incendiary weapon.²¹⁴ Muhammed recalled, “When we first got to the hospital, the doctors didn’t have a lot of experience dealing with this kind of substance, so they started by dousing us with water and with some serums, and this was calming to us at first, but then after less than a minute, my pain would multiply.”²¹⁵

Haid, who had come to document the attack with his brothers, described the scene at the hospital as “horrifying.” “Imagine that,” he said to Human Rights Watch. “When you have children burning and your instinct was to throw water on them, and it made them hurt more. It was horrific. I could still see the skin peeling despite lack of actual fire.”²¹⁶

Muhammed suffered from burn injuries over 85 percent of his body’s surface area.²¹⁷ He said his burns extended to half of his face, one of his ears, his neck, his shoulders, his back, his hand, and both legs and feet. He also struggled to breathe and had burns in his stomach.²¹⁸ Despite the pain, he flashed a peace sign at a BBC camera crew that had been doing a documentary on Dr. Hallam and Dr. Ahsan.²¹⁹ “The peace sign was just to express that, despite everything, we want to live and stay alive and we won’t stop no matter what,” he said.²²⁰

Other students also suffered severe injuries. Dr. Hallam described one boy as looking “wooden” when he first came to the hospital.²²¹ “He was obviously burned. [His hoarse voice] immediately told me his insides were burned, burned through his throat.... I knew he

²¹² Human Rights Watch-IHRC video interviews with Dr. Rola Hallam, October 15, 2020, and Dr. Saleyha Ahsan, October 16, 2020.

²¹³ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

²¹⁴ Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

²¹⁵ Human Rights Watch-IHRC phone interview with Muhammed Assi, October 24, 2020. See also Human Rights Watch phone interview with Mustafa Haid, October 27, 2020.

²¹⁶ Human Rights Watch phone interview with Mustafa Haid, October 27, 2020.

²¹⁷ Human Rights Watch-IHRC phone interview with Muhammed Assi, October 24, 2020.

²¹⁸ Ibid.

²¹⁹ Ian Pannell, “Saving Syria’s Children,” *BBC One Panorama*, September 20, 2013.

²²⁰ Human Rights Watch-IHRC phone interview with Muhammed Assi, October 24, 2020.

²²¹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

was going to die inside the hour,” she said. “In terms of mass casualty treatment, I should have just left him to die because it was futile in the medical sense, but I knew he would suffocate to death. I ended up intubating and ventilating and sedating him ... and he slipped away that way.”²²²

Doctors particularly remembered the suffering of an 18-year-old student named Siham Qanbari.²²³ “She was meant to be the brightest and one of the best in her class, and despite the risks of [going to school] with all of these bombings, she insisted on continuing to get her education,” said Dr. Hallam, who treated Siham.²²⁴ When she arrived at al-Atarib Hospital, Siham was in extreme pain due to injuries on over 60 percent of her body.²²⁵ Dr. Hallam told Human Rights Watch and IHRC, “I knew things weren’t looking good. She had major burns, her face was burned, her clothes were hanging off her, she had an awful smell of singed flesh, not just from her but from the dozens of children who came in.” Siham’s father, Ridwan, “kept begging me, ‘Please, treat her as your daughter.’ I didn’t have a daughter at the time, but I do now,” Dr. Hallam said.²²⁶ Siham was transferred to a hospital in Turkey and later died from her injuries.²²⁷

The inadequacy of the available health care exacerbated the challenges of treating the students’ injuries. Al-Atarib Hospital had been previously damaged due to ongoing fighting in the area. Haid, a photographer who came to the scene to document the attack, said his brothers volunteered to don medical gloves and rub cream on the children’s burns.²²⁸

Due to these resource constraints and the grave nature of incendiary weapon burns, the hospital could do little to help many of the children. Several children died immediately; their bodies were “charred” beyond recognition.²²⁹ Haid described seeing two corpses so burned their features were unrecognizable.²³⁰ “[We] didn’t even need to sanction them as deceased, as you normally do,” said Dr. Hallam. “I should have been able to give [the

²²² Ibid.

²²³ Human Rights Watch-IHRC video interviews with Dr. Rola Hallam, October 15, 2020, and Dr. Saleyha Ahsan, October 16, 2020.

²²⁴ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

²²⁵ Ibid.

²²⁶ Ibid.

²²⁷ Ibid.; Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

²²⁸ Human Rights Watch phone interview with Mustafa Haid, October 27, 2020.

²²⁹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

²³⁰ Human Rights Watch phone interview with Mustafa Haid, October 27, 2020.

injured children] oxygen, sedation, painkillers.... Most of them needed intubation and ventilation because they all suffered extensive burns, and I could see they were already salivating,” signaling that they had major internal burns.²³¹ Similarly frustrated by the limited health care she could provide, Dr. Ahsan told Human Rights Watch and IHRC that she “was angry with the world, angry with the fact that we’re not doing anything and this is continuing, [and with] full knowledge that this isn’t just a one-off [incident].”²³²

Ill-equipped to treat the effects of incendiary weapons, the doctors transferred Muhammed and other severely injured students to Turkish hospitals after a few hours.²³³ Muhammed recalled riding in an ambulance for about 30 to 45 minutes to the Turkish border and waiting an hour or two at the crossing. An ambulance finally arrived to take Muhammed and the other students to border tents for first aid and then on to hospitals in Turkey. Muhammed was transported to Defne Hospital in Antakya.²³⁴

Muhammed and the others who had been transferred needed extensive medical care. He told Human Rights Watch and IHRC that the medical team rushed him to the operating room, and later moved him to the intensive care unit.²³⁵ At first his family could not recognize him. He received liquids through tubes because the burns had damaged his jaw and bowels. His first stay in Defne Hospital lasted about 100 days. Between his initial discharge from Defne Hospital and the end of 2015, he returned to Turkey from Syria five times, for about two months each time.²³⁶

Muhammed, now 25 years old, has experienced physical, psychological, and social harm since the incident. Although he no longer feels chronic pain, scars cover 85 percent of his body and he can no longer use his left hand.²³⁷ Every night for the first six months after the attack, he said he watched the attack unfold again in his nightmares. During the day, he withdrew at home. Muhammed recalled, “[W]henver I left the house, I would come back after like five or ten minutes because I did not want someone to stop me in the street and

²³¹ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

²³² Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

²³³ Human Rights Watch-IHRC video interviews with Dr. Rola Hallam, October 15, 2020, and Dr. Saleyha Ahsan, October 16, 2020.

²³⁴ Human Rights Watch-IHRC phone interview with Muhammed Assi, October 24, 2020.

²³⁵ Ibid.

²³⁶ Ibid.

²³⁷ Ibid.

ask, “Why is your body like that? What are those burns?” He added, “The hard part is my little nephew is scared to come near me, my other nephew who always used to hug me is scared to play with me.”²³⁸ He has since received psychological treatment from a Syrian doctor in France and grown accustomed to the questions from strangers, but, he said, some people fear him because of his scars.²³⁹

The long-term effects of these injuries have interfered with Muhammed’s progress toward his goal of studying cybersecurity. Ongoing health problems prevented him from returning to school. While Muhammed has not given up his long-term career goals, he wanted to do something useful in the short term after he had to stop his studies.²⁴⁰ He took jobs as an aid worker with a Syrian nongovernmental organization that provides heaters for refugees in camps before winter and as a security guard protecting equipment at a Covid-19 isolation center.²⁴¹

Although not physically injured in the attack, the teacher has experienced ongoing trauma from the scene he witnessed. “It affected all of my life,” he said. For the first year, “it was a nightmare every night,” and he experienced lack of sleep and irritability. “It was really hard and cannot be described in words.”²⁴² The nightmares are less severe now, but he is still frightened by loud noises. “It hurts my brain every time I return to the story,” the teacher said.²⁴³

The people Human Rights Watch and IHRC interviewed about this incident emphasized the need to highlight the human suffering caused by incendiary weapons and to prevent it from happening again. According to Dr. Hallam, “We have to be telling people about the human costs. We don’t make any difference until we focus on the fact that there is tremendous suffering. I’m a mere witness and it still flashes in my mind seven years later.”²⁴⁴ Dr. Ahsan, who has also experienced flashbacks, reflected: “Definitely with Syria I began to think, ‘Are we at that point in time again ... where we have to face that we are not

²³⁸ Ibid.

²³⁹ Ibid.

²⁴⁰ Ibid.

²⁴¹ Ibid.

²⁴² Human Rights Watch-IHRC phone interview with teacher (name withheld), October 28, 2020.

²⁴³ Ibid.

²⁴⁴ Human Rights Watch-IHRC video interview with Dr. Rola Hallam, October 15, 2020.

really being humane and we're losing our humanity?'... I think it's in all of our best interests to gather and think of what we're going to do about this.”²⁴⁵

Survivors and witnesses called for the United Nations to respond. “Human beings have a right to live with dignity,” Muhammed said, demanding a stop to “weapons banned by conventions for use against civilians, schools, and hospitals.”²⁴⁶ The teacher said, “I totally respect the United Nations ... but what is the job of the United Nations? It should be protecting people.... [I]t's a great organization, but still, we need actions, actions to [help] not only Syrians but also other people around the world who really suffer from war.”²⁴⁷

²⁴⁵ Human Rights Watch-IHRC video interview with Dr. Saleyha Ahsan, October 16, 2020.

²⁴⁶ Human Rights Watch-IHRC phone interview with Muhammed Assi, October 24, 2020.

²⁴⁷ Human Rights Watch-IHRC phone interview with teacher (name withheld), October 28, 2020.

Protocol III and Its Loopholes

Preventing the significant human suffering caused by incendiary weapons requires strong international law to which states adhere and comply. CCW Protocol III seeks to protect civilians and civilian objects by regulating the use of incendiary weapons in “concentrations of civilians” and in “forests and other kinds of plant cover.”²⁴⁸ Nevertheless, it contains two legal loopholes that reduce its effectiveness.

First, Protocol III’s definition of incendiary weapons arguably excludes most multipurpose incendiary munitions. According to Article 1(1), an incendiary weapon is “any weapon or munition which is primarily designed to set fire to objects or to cause burn injury to persons through the action of flame, heat, or combination thereof, produced by a chemical reaction of a substance delivered on the target.” The definition does not encompass munitions, like those containing white phosphorus, that set fires and cause burns but are “primarily designed” to create smokescreens or signal troops.²⁴⁹ The nature or magnitude of impact or injury is not taken into account, as long as its primary purpose is considered beyond the scope of the protocol. The applicability of Protocol III thus depends largely on how developers, manufacturers, and users describe the purpose of a weapon.

Second, Protocol III draws an arbitrary and outdated distinction between air-dropped and ground-launched incendiary weapons. It prohibits the use of air-dropped models in concentrations of civilians, but the provision on the use of ground-launched incendiary weapons in such areas includes several caveats, falling short of a ban. This loophole ignores the reality that incendiary weapons cause the same horrific burns and destructive fires regardless of their delivery mechanism. In addition, ground-launched incendiary weapons, especially when delivered by multi-barrel rocket launchers, can have wide area

²⁴⁸ Convention on Certain Conventional Weapons Protocol III on Prohibitions or Restrictions on the Use of Incendiary Weapons, adopted October 10, 1980, entered into force December 2, 1983, art. 2.

²⁴⁹ Maj. Shane R. Reeves, a military officer and professor at the US Military Academy at West Point, interprets Protocol III to exclude white phosphorus when it is intended for something other than burning. Major Reeves explained: “[W]hen white phosphorus munitions are employed for a non-incendiary purpose,” such as to create a smokescreen, “the munitions clearly fall outside the definition of an ‘incendiary weapon’ and will not be regulated by Protocol III.” Even though “white phosphorous is at times employed solely because of its ‘incidental’ incendiary effects, thus essentially converting the munition into an incendiary weapon,” the current design-based definition in Protocol III ensures that white phosphorus escapes regulation. Maj. Shane R. Reeves, “The ‘Incendiary’ Effect of White Phosphorous in Counterinsurgency Operations,” *The Army Lawyer* (June 2010), p.86, <https://ssrn.com/abstract=2295118> (accessed November 1, 2019).

effects comparable to air-dropped ones, which makes them dangerous to civilians when used in populated areas. Furthermore, non-state armed groups have greater access to ground-launched incendiary weapons and may feel less pressure not to use them if international law, and the resulting norm, is less than absolute.

It would be legally, if not politically, straightforward to close both loopholes. Article 1(1) of Protocol III could be amended to redefine incendiary weapons as weapons that “have *the effect of* setting fires and causing burns....” Article 2 could be rewritten to prohibit the use of any incendiary weapon, regardless of its delivery mechanism, within a concentration of civilians. These changes would create stronger rules for states parties and increase the stigma against incendiary weapons, influencing even actors outside the treaty.

Ongoing Support and an Eye to the Future

The use of incendiary weapons in Afghanistan, Gaza, Iraq, Syria, Ukraine, Yemen, and elsewhere has generated debate at every annual CCW meeting since 2010. Over the past decade, at least 36 states, the European Union, and other international actors have publicly expressed their concern about the use of incendiary weapons and white phosphorus.²⁵⁰ Growing support for revisiting Protocol III led to its inclusion on the agenda of the CCW's Meeting of States Parties in 2017. The topic was dropped from the 2019 and 2020 agendas, however, due to pressure from a few states, most notably Russia.

Despite the lack of a dedicated agenda item at their last meeting, held in November 2019, CCW states parties found ways to engage with the topic. Those that wished to speak did so during the "General Exchange of Views" or under Agenda Item 12, the "Status of Implementation of and Compliance with the Convention and its Protocols." Almost all of the 17 states that participated in discussions about incendiary weapons expressed concerns about the use of incendiary weapons and a desire for dedicated discussions. Russia and the United States ultimately blocked proposals to set aside time in 2020 to discuss CCW Protocol III. Due to the persistence of several states, however, the final report reflected the widespread concern and, unlike the year before, acknowledged calls to reinstate an agenda item on the protocol.²⁵¹

Condemnation and Concern

In 2019, at least 13 states plus the European Union expressed concerns about or condemned the use of incendiary weapons on civilians since the beginning of the Syrian

²⁵⁰ Argentina, Australia, Austria, Canada, Chile, Colombia, Costa Rica, Croatia, Cyprus, Djibouti, Ecuador, Estonia, Finland, France, the Holy See, Hungary, Ireland, Italy, Kazakhstan, Latvia, Lithuania, Mauritius, Mexico, Moldova, Montenegro, the Netherlands, New Zealand, Nigeria, Pakistan, Palestine, Slovenia, South Africa, Sweden, Switzerland, the United Kingdom, and the United States, as well as the European Union. See statements from CCW Meetings of States Parties and Review Conferences between 2010-2018, generally available at UN Office at Geneva, "The Convention on Certain Conventional Weapons: Meetings of the States Parties," [https://www.unog.ch/80256EE600585943/\(httpPages\)/4FoDEF093B4860B4C1257180004B1B30?OpenDocument](https://www.unog.ch/80256EE600585943/(httpPages)/4FoDEF093B4860B4C1257180004B1B30?OpenDocument) (accessed November 1, 2019), and Reaching Critical Will, "Convention on Certain Conventional Weapons (CCW)," <http://reachingcriticalwill.org/disarmament-fora/ccw> (accessed November 1, 2019). See also Human Rights Watch notes from those meetings.

²⁵¹ CCW Meeting of High Contracting Parties, "Final Report," CCW/MSP/2019/9, Geneva, November 13-15, 2019, para. 25.

conflict.²⁵² The discussions included new voices: of these 13 states, 5 states had not spoken on the topic at the 2018 CCW. In their interventions, states focused on the human suffering caused by incendiary weapons. Austria, for example, emphasized that it remained “deeply concerned about the humanitarian impact caused by the use of incendiary weapons and in particular the unacceptable suffering these weapons inflicted.”²⁵³ New Zealand highlighted the “horrific consequences of the use of incendiary weapons for civilians.”²⁵⁴ Similarly, the European Union declared that it “remains gravely concerned over the situation in Syria which is causing unacceptable suffering for civilian populations.”²⁵⁵ These delegations were joined by Australia, Belgium, Chile, Costa Rica, Germany, Ireland, Jordan, Mexico, Sweden, Switzerland, and the United Kingdom in their disapproval.

The final report of the meeting reflected these views. It declared that “a number of delegations raised concerns over the recent growing number of reports of use of incendiary weapons against civilians and condemned any use of incendiary weapons against civilians or civilian objects, and any other use incompatible with the relevant rules of international humanitarian law, including the provisions of Protocol III, where applicable.”²⁵⁶

Calls for Further Discussion and an Agenda Item

Most states that spoke during the 2019 annual CCW meeting supported more discussions of incendiary weapons. Six specifically called Protocol III to be on the agenda of the 2020 annual meeting.²⁵⁷ For example, the European Union—which represented 28 member states and 3 others—stated, “We regret that Protocol III issues were removed from the CCW

²⁵² Australia, Austria, Belgium, Chile, Costa Rica, Germany, Ireland, Jordan, Mexico, New Zealand, Sweden, Switzerland, United Kingdom, and the European Union. See statements from CCW Meeting of States Parties, 2019, generally available at UN Office at Geneva, “CCW Meeting of High Contracting Parties—2019,” [https://www.unog.ch/__80256ee600585943.nsf/\(httpPages\)/a0a0a3470e40345cc12580cd003d7927?OpenDocument&ExpandSection=6#_Section6](https://www.unog.ch/__80256ee600585943.nsf/(httpPages)/a0a0a3470e40345cc12580cd003d7927?OpenDocument&ExpandSection=6#_Section6) (accessed November 3, 2020), and Reaching Critical Will, “Statements from 2019 Meeting of CCW High Contracting Parties,” <https://reachingcriticalwill.org/disarmament-fora/ccw/2019/ccw-hcp/statements> (accessed November 3, 2020). See also Human Rights Watch notes from that meeting.

²⁵³ Statement of Austria to the CCW Meeting of High Contracting Parties, Geneva, November 14, 2019.

²⁵⁴ Statement of New Zealand to the CCW Meeting of High Contracting Parties, Geneva, November 14, 2019.

²⁵⁵ Statement of the European Union to the CCW Meeting of High Contracting Parties, Geneva, November 13, 2019.

²⁵⁶ CCW Meeting of High Contracting Parties, “Final Report,” CCW/MSP/2019/9, Geneva, November 13-15, 2019, para. 25.

²⁵⁷ Australia, Austria, Belgium, Chile, Costa Rica, Germany, Ireland, Mexico, New Zealand, Sweden, Switzerland, and the European Union called for further discussion on Protocol III at the 2019 Meeting of States Parties. Additionally, Austria, Chile, Germany, Mexico, New Zealand, Sweden, and the European Union specifically welcomed a distinct agenda item on Protocol III.

agenda because of the opposition by one High Contracting Party and we request to have them back in 2020.”²⁵⁸ Mexico, concerned with reports of the use of incendiary weapons, found further debate particularly necessary given “the humanitarian implications of the use of these weapons in contravention of the obligations of the parties and the existing gaps” in the law.²⁵⁹

Recognizing the need to spend more time discussing Protocol III, New Zealand called for the protocol to be added back to the agenda of the CCW’s 2020 annual meeting. It also “[saw] the merit in the convening of an informal meeting to discuss universalisation, implementation and adequacy of Protocol III in light of the humanitarian concerns that surround incendiary weapons.”²⁶⁰ Such a meeting would be held outside of the formal Meeting of States Parties and would allow for even more substantive discussions.

Looking forward, Switzerland argued that Protocol III should be taken up at the 2021 Review Conference. It emphasized that the Review Conference represented an important opportunity to take an in-depth look at Protocol III.²⁶¹

International and nongovernmental organizations also welcomed the discussions and called for them to continue. The International Committee of the Red Cross urged all states to accede to the protocol without delay and to report on their policies and operational practices on the use of incendiary weapons to better inform the adequacy of Protocol III and customary international law.²⁶² Civil society organizations, including Human Rights Watch, PAX, and Mines Action Canada, called for both further discussions and amendments to strengthen Protocol III.

Ultimately, the final report synthesized states parties’ calls for further discussions. The report stated that, “While some delegations called for the reinstatement of a specific agenda item on Protocol III, some other delegations were of the view that there is no need to include the item on Protocol III on the agenda.”²⁶³

²⁵⁸ Statement of the European Union to the CCW Meeting of High Contracting Parties, Geneva, November 13, 2019.

²⁵⁹ Statement of Mexico to the CCW Meeting of High Contracting Parties, Geneva, November 13, 2019 (IHRC translation).

²⁶⁰ Statement of New Zealand to the CCW Meeting of High Contracting Parties, Geneva, November 14, 2019.

²⁶¹ Statement of Switzerland to the CCW Meeting of High Contracting Parties, Geneva, November 13, 2019.

²⁶² Statement of the International Committee of the Red Cross (ICRC) to the CCW Meeting of High Contracting Parties, Geneva, November 14, 2019.

²⁶³ CCW Meeting of High Contracting Parties, “Final Report,” CCW/MSP/2019/9, Geneva, November 13-15, 2019, para. 25.

Strengthening or Amending Protocol III

At least a dozen states have called for amending and closing the loopholes in Protocol III that result from the protocol’s arbitrary and outdated distinctions.²⁶⁴ In 2019, at least four states reiterated that call.²⁶⁵ Austria, for example, advocated for “strengthening Protocol III in order to prevent the insidious harm caused by these weapons.”²⁶⁶ Chile emphasized that Protocol III is limited in its current form because it excludes the use of multipurpose weapons and creates discrepancies between surface-launched and air-dropped incendiary weapons.²⁶⁷

²⁶⁴ Since 2015, states that have called for amending and strengthening Protocol III at CCW meetings of states parties include: Argentina, Austria, Chile, Costa Rica, Croatia, Ecuador, the Holy See, Jordan, Mexico, Moldova, Panama, and Zambia.

²⁶⁵ Austria, Chile, Mexico, and Panama discussed closing loopholes in Protocol III at the 2019 Meeting of States Parties. See statements from CCW Meeting of States Parties, 2019, generally available at UN Office at Geneva, “CCW Meeting of High Contracting Parties—2019,”

[https://www.unog.ch/__80256ee600585943.nsf/\(httpPages\)/a0a0a3470e40345cc12580cd003d7927?OpenDocument&ExpandSection=6#_Section6](https://www.unog.ch/__80256ee600585943.nsf/(httpPages)/a0a0a3470e40345cc12580cd003d7927?OpenDocument&ExpandSection=6#_Section6) (accessed November 3, 2020), and Reaching Critical Will, “Statements from 2019 Meeting of CCW High Contracting Parties,” <https://reachingcriticalwill.org/disarmament-fora/ccw/2019/ccw-hcp/statements> (accessed November 3, 2020). See also Human Rights Watch notes from that meeting.

²⁶⁶ Statement of Austria to the CCW Meeting of High Contracting Parties, Geneva, November 14, 2019.

²⁶⁷ Statement of Chile to the CCW Meeting of High Contracting Parties, Geneva, November 14, 2019.

Conclusion

The ongoing human suffering caused by incendiary weapons underscores the need for stronger international law. The statements made at the 2019 CCW meeting show that there is an appetite for more in-depth consideration of the adequacy of Protocol III. States parties should therefore agree to devote time during the course of 2021 to discuss the inadequacies of Protocol III and to put incendiary weapons on the agenda for the 2021 Review Conference. The Review Conference itself should adopt a mandate to review and amend Protocol III. These steps will allow them to take full advantage of the opportunity presented by the Review Conference to move from talk to action and increase the protection of civilians from the horror of incendiary weapons.

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“They Burn Through Everything”

The Human Cost of Incendiary Weapons and the Limits of International Law

Incendiary weapons use heat and fire to inflict injuries of exceptional intensity, and those who survive experience a lifetime of suffering. The weapons cause excruciating burns, respiratory damage, and permanent physical disabilities. Burns are especially difficult to treat in armed conflict settings. The trauma of the attack, painful treatment, and appearance-changing scars lead to psychological harm and social exclusion. Costly medical care and property damage have adverse socioeconomic impacts.

“*They Burn Through Everything*” draws on in-depth interviews and medical research to detail the immediate and long-term effects of incendiary weapons. The report includes case studies from Afghanistan, Gaza, and Syria.

The report urges states to revisit and revise existing international law. Over the past decade, dozens of countries party to the Convention on Conventional Weapons (CCW) have expressed concern about the use of incendiary weapons, including white phosphorous. Many have called for strengthening CCW Protocol III, which governs incendiary weapons but has significant loopholes. Due to opposition from a small number of countries, however, CCW meetings have become bogged down in a debate about whether even to put Protocol III on their agenda.

Instead of discussing whether to discuss incendiary weapons, governments should take action to address the weapons’ humanitarian consequences. Human Rights Watch and the Harvard Law School International Human Rights Clinic call on CCW states parties to dedicate time to assess the adequacy of Protocol III and urgently act to close its loopholes. To recognize the plight of survivors and prevent future harm, countries should make strengthening international law on incendiary weapons a priority.



An incendiary weapon falls over the Kafr Hamrah village of Aleppo, Syria on June 22, 2016.

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