



Unleashed Brutality: An Expert Medical Opinion on the Health Harms from California Police Attack Dogs

January 2024

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I. Introduction

In January 2015, Mr. Richard May entered a construction site in Half Moon Bay, California, with his neighbor to help retrieve the neighbor's cat. An alarm was set off, summoning sheriff's deputies to the site with a canine. The canine bit Mr. May, who was not resisting, fleeing, or armed, inflicting multiple puncture wounds in his right calf, deep enough to expose underlying fat and limit his ability to bear weight on his injured leg for several weeks.

In August 2019 in West Covina, California, Ms. Lauren Frausto was asleep under a desk inside an abandoned post office when police officers, responding to a call about a possible burglary in the area, deployed a police dog to search the building. Ms. Frausto awoke to excruciating pain from her arm, which was trapped between the dog's clenched teeth and bleeding profusely. The laceration from the dog's bite was deep enough to expose fat, muscle, and bone. Ms. Frausto had to undergo more than four surgeries to address the bite injuries that included multiple fractures. She sustained permanent deformation and loss of function in her injured arm. (See Appendix B for descriptions of her injuries and other reported health sequelae from medical records.)

Ms. Frausto and Mr. May are two of hundreds of people who over the past years have been harmed by police canine bites in California. Others include Talmika Bates, Jennifer Fink-Carver, Ronnie Ledesma, Gary Gregory, Jordan Gutierrez, and Jesse Porter, all of whom experienced both acute and long-term – even permanent – health harms as a result of such bites.

In November 2023, a team of five physicians affiliated with Physicians for Human Rights (PHR) conducted an independent review of available data on 30 cases in California involving police canine bites at the request of the American Civil Liberties Union of Southern California (ACLU SoCal).¹ In 2023, ACLU SoCal had requested, under the California Public Records Act ("CPRA"), records from 28 county and city law enforcement agencies relating to canine apprehension and/or use of force. These requests included, among other things, use of force reports relating to such apprehensions and information under Senate Bills 1421 and 16 for canine use of force that resulted in serious bodily injury and/or death. These records covered 2019 to the present.²

Additionally, ACLU SoCal staff compiled documents made public during litigation filed on behalf of people injured by California police canines. These additional documents, which include pleadings, medical reports, depositions and records of medical examiners, photographs, and other documentation of injuries, covered 2012 to the present, although most involved litigation within the past six years (from 2017 onwards).

The ACLU SoCal staff reviewed hundreds of cases obtained under the CPRA and sent PHR 49 cases for independent medical review, 30 of which the medical team was able to complete given the time constraints of the request. These were cases that contained at least some medical information such as substantive descriptions of injuries, medical expert reports, medical records, deposition transcripts of medical examiners, and photographs. PHR reviewed the cases in the order they were uploaded into a secure, shared electronic folder.

The available data from each case varied. It ranged from only police reports for many cases to more detailed police records, legal complaints, and depositions in others. Six cases also included medical record documentation, thus enabling a more detailed medical review. (See Appendix B for brief reviews of the medical documentation for these six cases.) While the variability of available data precluded systematic comparison across cases, the focus of this assessment is to identify the short- and long-term health effects of canine violence based on the 30 reviewed cases.³

In the reviewed cases, police canines were deployed against people who appeared to pose no threat of danger to the police officers or others. Rather, the canines were deployed in cases of minor crimes like petty theft, nonviolent crimes, and even traffic violations. The canines were also deployed on several occasions in buildings or open areas to look for suspects or trespassers. The canines were further deployed when police were called to conduct wellness checks requested by concerned neighbors and toward persons seeking help, such as those experiencing behavioral health crises or intimate partner violence. As records indicated, police canines did not discriminate in who they attacked and bit young children and other uninvolved bystanders at or near the scene. Those bites were often deep, penetrating multiple layers of skin, fat, and in some of the reviewed cases, even underlying muscle, and exposed bone. In multiple cases, police canines failed to release their bites after a single verbal command or reportedly required being pulled away manually by a police officer, resulting in worse injuries.

Health harms were varied. Immediate harms included severe pain from deep wounds requiring extensive stitches or multiple surgical repairs given the depth and severity of the wounds, skin grafting, infectious complications, and traumatic brain injuries. Long-term harms, many lifelong, included disfigurement, scarring, nerve injury, loss of function of arms and legs, cognitive impairment, chronic pain, sequelae from traumatic brain injuries, post-traumatic stress disorder, and other mental health disorders. Costs for medical care in those cases where costs could be estimated were exorbitant, requiring consultations with specialists, surgical procedures, hospitalizations, multiple medications, and frequent medical visits for ongoing medical issues.

The health harms are described below with illustrative examples from the cases sent by ACLU SoCal. In addition, a search of relevant scientific and medical literature was conducted on PubMed using terms like “police canine” and “injuries or bites.” Findings from this literature are described below and particular concerns are noted for special populations that were harmed, including children, unhoused people, and people with disabilities.

The physician team conducting the review of these records spanned multiple medical specialties. These include an emergency medicine physician (Dr. William Weber), an infectious disease physician (Dr. Kathryn Himmelstein), a medicine-pediatrics-trained hospitalist physician (Dr. Nora Abo-Sido), and two neurologists (Drs. Altaf Saadi and Minali Nigam). PHR medical director Dr. Michele Heisler, a general internist, conducted a secondary review of the provided documents, contributed to the report, and provided a more detailed discussion of the six cases with medical records/statements.⁴ (See Appendix A for physician qualifications.)

II. Limitations in Data Available for Review

Discrepancies in the available data and lack of data constrained the medical review in several significant ways. One observed discrepancy in the data was between reports by coroners who were elected sheriffs in law enforcement agencies and those of independent forensic pathologists. In some reviewed cases, the coroners documented less severe medical injuries than independent forensic pathologists did. A second discrepancy observed in cases with more complete data sources was between police reports and medical documentation, including imaging, in subsequent Emergency Department (“ED”) and other medical records. For example, one police report involving dog bites on a person’s left wrist was listed in the police report as “one tooth puncture/tear mark” and “3 tooth puncture/ drag marks,” but the images revealed deep laceration wounds or potentially even avulsion wounds rather than puncture wounds. Puncture wounds are smaller, caused by pointed objects, do not bleed excessively, and can appear to close; by contrast, laceration or avulsion wounds involve the tearing of soft body tissue away from its normal position and represent more severe wounds. Thus, in those cases in which only police records were available, the extent and severity of medical injuries from the canine violence may be underestimated.

Moreover, in two cases it was not possible to determine, based on the descriptions in police records, whether injuries sustained were solely from police canine violence or because of other police violence against the victim. For example, in one reviewed case in which a person died in police custody, the victim was subject to multiple blows by police batons, dog bites, and prone (face down) compression restraint – four officers were on the victim's shoulders, back, and legs while he was prone for at least eight minutes before he died, according to police estimates.

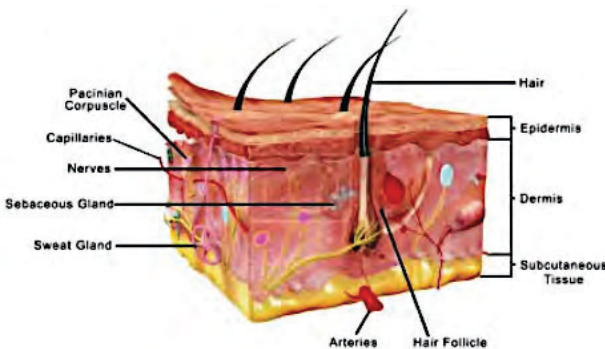
Additionally, although studies have identified differences in medical harms based on dog breed and police dog training method (that is, “bite and hold” versus “find and bark”),^{5, 6, 7} the reviewed records did not contain information about dog breed or training method to enable consideration of these factors. Proponents of the bark-and-hold training method argue that the mere presence of a barking police dog will most often be sufficient to cause a subject to surrender.⁸ However, in several cases, police canines behaved outside the confine of any training method, such as self-deploying (that is, attacking without command or provocation) and not following commands to release.

Finally, conclusions cannot be drawn from this review about how representative these 30 cases are of injuries caused by use of police canines in California or about the prevalence of injuries from police canine violence across the state.

III. Acute Medical Harms of Police Dog Attacks

Dog bites cause immediate damage to the skin and deeper layers. The bite force of a trained police dog can exceed 4,000 pounds per square inch (psi), which is the equivalent pressure of a rhinoceros balancing on a postage stamp.⁹ As predators of other animals, dogs evolved with large, sharp teeth that puncture and anchor in flesh, while their molars tear and shred tissue. This grasp-and-tear mechanism as the dog's teeth enter the tissues followed by varying degrees of sudden and forceful pulling and torquing leads to particularly damaging soft-tissue injury patterns, with variable penetrations, crushing, and ripping of tissues. Their bites can thus cause deep puncture wounds (forceful injuries caused by a sharp, pointed object that goes into the skin and is usually narrower and deeper than a cut or scrape), extensive tissue lacerations (deep cuts or tears in skin or flesh), avulsions (a forcible tearing off of layers of skin to expose muscles, tendons, and tissue), and degloving (when a part of the skin, with or without the underlying soft tissue, becomes wholly or partially detached from the body, like a glove stripped off a hand). Other potential injuries include severe crush injuries caused when significant force or pressure is exerted against a body part. Large dogs like German Shepherds and Belgian Malinois, breeds typically used for police work, can tear large flaps of skin from the bone and inflict bone injuries like fractures.¹⁰ All types of injuries may be present in a single traumatic event. Figure 1 shows the layers of the skin with the multiple structures at different depths.

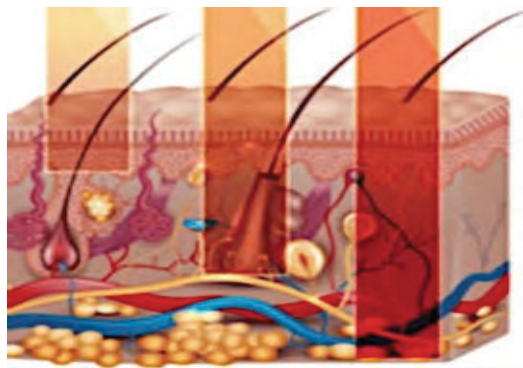
Figure 1. The Layers of the Skin (epidermis, dermis, and subcutaneous tissues)



The depth of injury determines what structures are affected. For example, the degree of nerve damage, healing time, and severity of scarring are all largely determined by the depth of injury. Figure 2 shows different depths of injury within the skin layers. Many dog bites extend far deeper than these skin layers affecting underlying tendons, tissue, deeper blood vessels, and bone. Dog bites also introduce bacterial and often debris contamination increasing risk of serious acute infections that delays healing. One Los Angeles-based study found that more than half of people presenting to emergency departments with police canine bites were hospitalized, with a median hospital stay of three days, aligning with our finding in this review that these dog bites were usually severe.¹¹

Figure 2. Depths of Injury

Superficial Thickness (through epidermis)	Partial Thickness (through dermis)	Full Thickness (entire thickness of skin and deeper)
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Scarring. Scars form due to the healing process after wounding and are permanent. They can be more or less obvious depending on many factors. Traumatic scars tend to be more obvious because the tearing of the skin in traumatic wounds often causes cuts with ragged edges and irregular borders that are difficult to stitch together and create large scars. Dog bites also cause wounds at various depths and directions and have adjacent soft tissue inflammation increasing the area of injury. Any of these factors alone contribute to suboptimal wound healing when compared with controlled, clean, and precise surgical incisions created under sterile conditions. Dog bites thus often lead to significant permanent scarring, as evinced in the reviewed cases. Many involved long lacerations over eight inches long that required surgical operation—or in some cases multiple operations—to repair and close. For Mr. Wilbur Fernandez, who was pursued by police after a couple accused him and another man of stealing their cell phones, his wound from the police canine was so severe that it exposed bone and required a 23-day hospitalization with five surgeries and an eventual skin graft to repair the large tear.

Blood Vessel Damage. Dog bites often penetrate below the skin to the underlying blood vessels, nerves, tendons, muscles, and bone.¹² Blood vessel damage, especially to arteries, can cause life-threatening bleeding. Damage to bones, muscles, and tendons can require further surgeries to repair the layers of torn muscle, fat, and other broken tissue. Nerve damage often leads to permanent loss of sensation at the injured site and chronic neuropathic pain and can result in inability to move an arm or leg.

Infection. The deep punctures from a dog bite can embed bacteria deep in the skin and other tissues, leading to infection in around 20 percent of dog bites.¹³ Due to high rates of infection, physicians are often cautious about fully closing wounds for fear of trapping bacteria inside which could potentially fester and cause an infection. Leaving wounds open to heal or loosely closed, however, can further exacerbate the size of scars or disfigurement. For instance, Mr.

Jesse Porter was an 89-year-old man who was in his backyard in Hayward, California, when police officers, with no warning, lifted a police dog over his 8-foot security fence to continue pursuing suspects in a robbery of a nearby restaurant. The dog bit Mr. Porter's leg, causing a large, near-circumferential wound deep enough to involve the muscle and tendon and fractured the bone. The leg later developed gangrene, a dangerous and potentially fatal condition that happens when blood flow to a large area of tissue is severed, leading the tissue to break down and die. As a result, Mr. Porter underwent an above-the-knee amputation, was transferred to a nursing facility, and later died two months after the attack.

Traumatic Brain Injury. The force of a large dog can also cause significant acute injury by throwing or dragging people to the ground. In the 30 cases reviewed, multiple people suffered traumatic brain injuries after striking the ground with their heads. These injuries can cause concussion symptoms that can be debilitating in both the short and long term, including symptoms such as dizziness, headaches, blurring of vision, sleep difficulty, and cognitive difficulties. These are detailed further below in the context of long-term medical harms.

IV. Long-term Medical Harms of Police Dog Attacks

Police dog bites vary by intensity as well as location, which affects the associated complications. For example, if a bite involves the neck area, one could experience vocal cord paralysis.¹⁴ One retrospective study of data from the National Electronic Injury Surveillance System involving more than 32,000 police dog bite ED visits from 2005-2013 found that most police dog bites were in the arms and legs rather than the head or neck area,¹⁵ although they were more likely to involve the head or neck area compared to nonpolice dog bites.¹⁶ At the same time, people sustaining police dog bite injuries are more likely to sustain multiple bites, with one study finding that more than half (57 percent) sustained three or more bites in a single attack.¹⁷ Another study comparing police dog bites with domestic (nonpolice) dog bites similarly found that police dog victims were more likely to be bitten multiple times as well as hospitalized more often. They underwent more invasive diagnostic tests and operations as their injuries were more serious than those of domestic dog bite victims.¹⁸ This severity, in turn, increases the risk of long-term medical harms, including permanent disfigurement and disability.

Nerve Injury. Police canine bites carry a significant risk of nerve injury. In addition to complete loss of function and permanent disability, nerve injury can lead to a range of complications, including loss of sensation and decreased mobility.¹⁹ Bites near major nerve pathways, whether in the limbs and neck, can result in nerve compression or avulsions. In addition to sensory and motor deficits, nerve injury from dog bites can lead to chronic pain and functional loss of the involved limb (such as inability to write or facial paralysis).²⁰ One such case is described below:

Mr. Gary Gregory was walking his dog in a mobile home park in Benicia, California, on May 17, 2021, when he was confronted by squad cars and police officers responding to a report of gun

shots in the area. The officers trained their firearms on Mr. Gregory and took defensive positions. Mr. Gregory was not armed, did not try to resist in any way, and complied with police requests to raise his hands, keep them visible on his head, walk backwards, and drop to his knees on the ground. At that time another squad car arrived and the officer in that car exited the vehicle and drew his firearm, leaving his driver's side door open. While officers pinned Mr. Gregory to the ground at gunpoint and were preparing to handcuff him, a police dog escaped through the squad car's open door and "self-deployed" (attacked without command or provocation).

The police dog attacked Mr. Gregory, biting and clamping down on the left side of his neck while he was being held down by an officer. At least twice, the officer verbally commanded the dog to release his hold while yanking on the dog's body from the collar, while the dog maintained his latched bite on Mr. Gregory's neck. After at least 25 seconds, the officer physically choked the dog and wrenched him away, creating a deep gash down Mr. Gregory's neck and severing his left jugular vein, leading to massive bleeding.

A partial list of the physical and psychological sequelae of this canine attack includes:

- The traumatic vascular avulsion of the left external jugular vein led to uncontrolled hemorrhaging that required "full code" Advanced Trauma Life Support (ATLS) Protocol and lifesaving trauma care and surgical treatment;
- Full thickness sternocleidomastoid injury;
- Laceration and damage to muscle, fascia, and tendon to the neck;
- Significant and painful permanent scar tissue and scarring;
- Deep flesh wounds to the arm and shoulder;
- Lacerations to Mr. Gregory's face and the back of his head;
- Permanent nerve damage to the neck and face with persistent left eye droop and loss of taste;
- Jaw pain and stiffness;
- Ear and sinus pain, dizziness, spasms, nausea, headaches, and body aches;
- Chronic pain; and
- Fear, generalized anxiety, paranoia, memory loss, and PTSD as well as other mental/emotional conditions.

Acute and Chronic Pain. Pain is a common short- and long-term complication of canine bites. The acute pain from a dog bite can be intense due to tissue trauma, puncture wounds, and damage to nerves and blood vessels. When nerve endings are damaged, this can intensify the severity and type of pain. After immediate impact, the pain can persist or worsen from secondary infections or tissue necrosis (death).²¹ Treatment for pain after a canine bite involves a multidisciplinary approach, including wound care, pain relief medications, and possible surgical interventions.

Complex regional pain syndrome, a severely disabling condition in which continuing pain and inflammation is disproportionate to the initial trauma, can be a severe complication after limb

and peripheral nerve injury.^{22, 23} In one reviewed case, a 22-year-old woman who was bitten by a police dog after she requested help from police officers due to violence from her boyfriend, reported having ongoing pain out of proportion to her scarred areas for at least a year after her initial injury. She was diagnosed with complex regional pain syndrome. She sought care from numerous specialists, including plastic surgeon, dermatologist, doctor specializing in wound care, and a pain specialist and tried at least nine different pain medications, three sympathetic nerve blocks, and a spinal cord stimulator, none of which completely resolved her pain. (See Appendix B for description of medical documentation.)

Psychological Harm and Distress. The short- and long-term psychological harms of canine violence can be severe. Resulting disfigurement, scarring, chronic pain, and disability can cause low self-esteem, anxiety, depression, and PTSD. Research shows that both acute stress disorders and chronic post-traumatic stress disorder, anxiety, and nightmares are common among dog bite victims.²⁴ Ms. Talmika Bates, for example, was a 24-year-old Black resident of Brentwood, California, who was hiding in a bush after having stolen some cosmetics from a store. When an officer sent a German Shepherd police dog into the bush without announcing that she should surrender, the dog bit her head, ripping away the top layers of skin, muscle, and connective tissue and exposing her skull (a degloving injury). The dog did not respond to commands to release, and the officer had to physically remove the dog to release him from the bite. The wound required extensive repair by plastic surgery, with 12 cm of tissue rearrangement and 25 cm of laceration repaired. Even after her surgical repairs, however, Ms. Bates required ongoing psychiatric care for depression and PTSD as a result of the police dog bite. (See Appendix B for description of medical record documentation.)

This psychological distress from police dog bites may be augmented by the callous behavior of dogs' handlers. For example, while he was hospitalized with a bite from a police canine named Riggs, police gave Mr. Richard May – the man who had entered a construction site with a friend to help retrieve her cat – a glossy gold sticker to wear that included an image of the dog and the words, “I met Riggs.”

Mental Illness. People with preexisting mental illness may have exacerbated symptoms after a dog bite and are particularly vulnerable to these harms. Many reviewed cases involved people with mental illness or substance use disorder who were bitten by police canines during wellness checks requested by the victim's loved ones or bystanders. One example is that of Mr. Jordan Gutierrez, a 22-year-old Latino man with paranoid schizophrenia whose mother called 911 in Visalia, California, to report that he was having a mental health crisis with psychosis and to request help with transporting him to the hospital for mental health treatment. The text box below briefly describes, according to the Plaintiff's complaint for damages, what happened when police responded to Mr. Gutierrez's mother's call for help and the resulting health sequelae.

Description of Police Dog Attack Against Jordan Gutierrez

Mr. Jordan Gutierrez was diagnosed with paranoid schizophrenia at 17 and at the time of the events, he lived with his mother, Ms. Yajada Keys, in Visalia, California. On October 20, 2020, at approximately 5:00 p.m., Ms. Keys called 911 from her residence, seeking emergency assistance to take her son to the hospital for immediate mental health treatment. She informed the dispatcher that Mr. Gutierrez had paranoid schizophrenia and had no weapons. Four police officers subsequently arrived in two police cars that were parked in front of the house. Ms. Keys reported that she told the police officers the same information she had told the dispatcher: her son had paranoid schizophrenia, had no weapons, and needed mental health treatment. One of the officers aimed a taser at Mr. Gutierrez and approached him. Although Ms. Keys protested that tasing him would not help, the officer commanded her to back up or she would be arrested. She complied. A second officer then joined the first in cornering Mr. Gutierrez against the wall of a building. Throughout this time, Mr. Gutierrez's hands were plainly visible. When a third police officer with a leashed dog (a large male Belgian Malinois) approached Mr. Gutierrez, Ms. Keys reported calling out, "That is not necessary!" The officers encircled Mr. Gutierrez while yelling at him.

The first two officers grabbed Mr. Gutierrez's arms and forced them behind his back. While they held him, the third officer reportedly ordered the dog to attack Mr. Gutierrez. While the officer held the dog's leash, the dog first bit Mr. Gutierrez's hip, causing him to lurch to the side in pain. The dog then jumped up on Mr. Gutierrez and tore into his face, slicing open his neck beneath his chin, his bottom lip, and his nostril almost to his top lip. Mr. Gutierrez's face bled heavily from the wounds. Throughout the attack, he sobbed and screamed in pain, and Ms. Keys cried out for her son. As he sobbed, the officers patted him down, handcuffed him, and led him past his mother toward a police car. Meanwhile, Ms. Keys called out, "This was not what I asked for," and repeated that her son needed medical attention. Her cries were reportedly met by threats from the first officer that she, too, would be arrested.

No ambulance was called, and Mr. Gutierrez was left in the back seat of the police car for approximately 30 minutes. He was then transported to a hospital to be treated for the dog bites, but at no time did the police request mental health treatment for him from the hospital. After the hospital provided initial treatment for his injuries, he was transported to a jail cell in his underwear, medical gown, and shoes, where he remained for approximately two days, with none of his medications for his schizophrenia or mental health evaluation for additional treatment.

The attack has left Mr. Gutierrez with permanent scarring and facial disfigurement. He now suffers from increased depression; he feels ashamed and anxious about his appearance. He does not want to be seen in public and wants to keep the scars on his face and neck hidden. In the months since the attack, he has suffered from heightened paranoia, depression, severe anxiety, nightmares, poor concentration, poor hygiene, and disturbed sleep patterns. He prefers to stay in his room with his blinds closed and eats his meals by himself in the dark. Once an avid dog lover, Mr. Gutierrez is now terrified of the animals and the sight of police officers.

Impaired Cognition. As well as exacerbating existing mental health illness and creating trauma-induced psychiatric conditions such as PTSD, police canine bites can lead to impaired cognition, especially in cases of severe head and facial injuries. Penetrating and blunt trauma from a canine attack can lead to skull fractures and traumatic brain injuries (such as brain bleeds, contusions, dural lacerations), some of which require neurosurgical interventions ranging from debridement to decompressive craniectomies.⁵ Traumatic brain injuries from dog bites can have secondary consequences, including cognitive impairment, which can affect memory, attention, problem solving, and other executive functions. PTSD and anxiety after a dog bite can also exacerbate cognitive deficits with difficulty in concentration, emotional lability, hypervigilance, and behavioral changes. Managing cognitive complications often requires frequent neurological evaluations, psychiatric care, psychological support, and cognitive rehabilitation.

V. Broader Harms from Police Dog Attacks

This review has highlighted the ways that harms from police canine violence extend beyond the medical realm. Prior studies have shown that permanent disfigurement due to canine violence, for example, is associated with higher incidence of post-attack unemployment, marital problems, and lower overall quality of life.^{25, 26, 27}

Some of the reviewed cases provided information on the exorbitant medical costs associated with the care of these bites and both their short- and long-term complications. One example is that of the 22-year-old woman whose identifying information in the reviewed materials was redacted. In 2013 in Kern County, she had been in a car with her ex-boyfriend who became aggressive, causing her to leave the car. He followed her and pinned her to the ground. When police were summoned to the scene, a police dog escaped from the patrol car’s back seat and repeatedly bit her exposed left calf until a police officer was able to pull the dog off her. To treat her multiple deep lacerations and resulting acute pain, just in the first year after the attack, the estimated medical costs – including ED visit, hospital admission, wound repair, medications, imaging, and multiple specialty – exceeded \$300,000. The chart below summarizes these estimates:

2013, Kern Co. Sheriffs Canine Bite		
Service	Total Cost	Source
ER Visit - Level 5 (2 visits)	\$4,400	UCLA Chargemaster
Complex laceration repair	\$1,565	Kaiser Chargemaster
Hospital admission (infection)	\$53,529	UCLA Chargemaster
IV Antibiotics (infusion by pump)	\$1,040	UCLA Chargemaster
Pain management program	\$62,000	Dr. Pangarkar declaration

Wound care therapy (3 visits)	\$1,770	UCLA Chargemaster
Physical therapy (12 visits)	\$2,450	Dr. Pangarkar declaration
Vocational counselor (8 sessions)	\$1,200	Dr. Pangarkar declaration
PM&R (12 visits)	\$3,750	Dr. Pangarkar declaration
Plastic surgery (2 visits)	\$730	Dr. Pangarkar declaration
Dermatology (2 visits)	\$730	Dr. Pangarkar declaration
Family medicine (6 visits)	\$1,683	Dr. Pangarkar declaration
Lumbar sympathetic nerve block (3 visits)	\$13,800	Dr. Pangarkar declaration
Spinal cord neurostimulator trial	\$31,363	Dr. Pangarkar declaration
Spinal cord stimulator permanent	\$90,252	Dr. Pangarkar declaration
Spinal cord stimulator pulse generator replacement	\$67,474	Dr. Pangarkar declaration
EMG	\$1,128	Dr. Pangarkar declaration
MRI	\$928	Dr. Pangarkar declaration
Total*	\$339,792	
*This conservative estimate does not include medications, home equipment, home health aide, legal fees, or ongoing services.		

Moreover, the victim continued to need ongoing treatment over the next years for intractable pain from complex regional pain syndrome, adding to the accumulation of medical costs.

Concern for Special Populations

This review raises special concerns about specific populations, including people who are unhoused, living with mental illness or disability, children, and those who speak languages other than English.

People who are Homeless/Unhoused. One of the more common complications of dog bites is infection, which, as noted earlier, can be caused by the bacteria living in dogs' mouths or by the bacteria that commonly live on the surface of human skin and are introduced deeper into the body by the dog's bite. People with suppressed immune systems from illnesses such as cancer, HIV/AIDS, asplenia (lack of a spleen), or liver disease, are at higher risk for severe infections, including sepsis and death, after dog bites.²⁸ Unhoused people, who may have greater exposure to police dogs (for example, Ms. Frausto was bitten while sleeping in an abandoned building) and are also more likely to have immunosuppressive underlying health conditions, are at particularly high risk for severe complications from and fatality after dog bites.²⁹

Children. Police canines may cause significant unintentional harm to children. The arrest of Marjani Martin in April 2019 in Richmond, California, included a chase into a multi-housing complex. Although canine warnings were issued by officers, a child who was sleeping nearby did not hear these warnings. There was additionally a language barrier as the residents were Tigrinya-speaking Eritreans. Per police reports, Mr. Martin was hiding under a bed and as the police canine handler was bending down to look under the bed, the canine suddenly lunged toward a detective, biting his left forearm. The canine was given his release command after the attack and was commanded to apprehend Mr. Martin instead. But the police had not noticed the sleeping child wrapped in a blanket, and the dog bit the child instead of Mr. Martin. The child sustained puncture wounds to his head, and lacerations to his left eye, right ear, and back. Neither of the two victims of these canine wounds were the intended suspect, highlighting how imprecision due to canine violence can result in significant harm.

Children also are particularly vulnerable to canine attacks as they are still developing both physically and mentally. Notable known consequences of dog bites include disfigurement, scarring, infection, neurological injury, phobias including fear of animals (especially dogs), nightmares, change of appetite and weight changes, difficulty sleeping, speech defects (such as stuttering), bedwetting, changes in personality, and emotional outbursts.³⁰ The area most frequently affected by dog bites in children is the face, which often requires the specialized skills of a surgical subspecialist to reconstruct the more complex functional and aesthetic facial components.³¹ Even for simple repairs, children are more likely to require general anesthesia in operating rooms, given their young age and limited ability to cooperate with procedures, and the associated mortality and morbidity risks.

People Living with Mental Illness or Disabilities. As discussed earlier, people living with mental illness or disabilities are at disproportionate risk of experiencing excessive use of police force, including canine violence, as 911 calls requesting help when somebody is experiencing a behavioral crisis too often lead to violence by the police who respond. These people may not be able to respond as instructed to police requests or police canine alerts, may take longer to respond, or their state of mental distress may lead them to respond in a way that police interpret as threatening. They also are often at higher risk of complications after use of canine force, as discussed earlier in the case of Mr. Gutierrez, the 22-year-old man with paranoid schizophrenia who was attacked by a police dog when his mother called 911 for help transporting him to a hospital for mental health treatment.

Non-English Speakers. People who speak languages other than English (LOE) may also be at higher risk of sustaining police canine injuries and complications. In this review of cases, police canine presence was sometimes, though not consistently, announced in English and police canines were deployed after failure to respond to verbal commands in English – without efforts made to ensure that all people involved were English-speaking and understood the announcements and commands. Failure to comply due to a language barrier may result in excessive canine use of force. This is seen, for instance, in the case of Mr. Yudel Castillo, an 18-year-old Hispanic man in Oakland, California. On April 17, 2019, Mr. Castillo and his friend Wilbur Fernandez, also an 18-year-old, were bitten and injured by canines after police were called for alleged armed robbery of cellphones. Mr. Castillo suffered multiple bites and had his

sweatshirt ripped off. Per the police report, the arresting officer gave commands in English and was not aware until after the ambulance arrived that Mr. Castillo spoke only Spanish.

The disproportionate harm against these people is compounded by real concerns about police canines perpetuating racialized violence, with most of those sustaining dog bite injuries being Black or Hispanic men.^{32, 33}

Conclusion

This independent review of 30 cases demonstrates the severe physical and psychological harm caused by police use of attack dogs against California residents. Serious and long-lasting physical injuries resulting in chronic pain and disability occurred in most cases. In those cases in which psychological assessment was described, people suffered from PTSD, anxiety, depression, and other mental health sequelae from the attacks. These harms, while always unacceptable, were inflicted on people who were not carrying arms, were described as not threatening police officers – in many cases were seeking to comply with police orders – and were, in some cases, inflicted on people experiencing behavioral crises and whom police had been summoned to help rather than harm. Moreover, the reviewed cases illustrate the inability of these dogs to always be controlled, with some attacking without receiving a command to attack and some continuing to bite, maintain grip on, and violently tear at and shake the victim while police officers commanded them to release. As alarming, even when the dogs responded immediately to police commands, the resulting injuries were often as severe as when the dogs did not comply with commands. The resulting injuries resulted in long-term or permanent injury, high direct medical costs, and societal costs of the people not being able to return to paid employment. These egregious health consequences suggest that the use of police attack dogs must be strictly limited, if not completely stopped.

Appendix A: Physician Qualifications

Altaf Saadi, MD, MSc is a neurologist at Massachusetts General Hospital (MGH) and Assistant Professor of Neurology at Harvard Medical School. She is also the Associate Director of the MGH Asylum Clinic. She has extensive professional, educational, and research experience assessing and treating survivors of torture, violence, and other traumatic human rights violations. Her expertise extends to assessing conditions of confinement in immigration prisons and documenting harms by police actions, both in health care and community settings, such as the use of neck restraints and the pseudo-diagnosis “excited delirium.” She has served as a medical expert for Physicians for Human Rights, as well as other civil rights and human rights organizations, including the American Civil Liberties Union, National Immigrant Justice Center, and Disability Rights California. She was named a 2021 National Minority Quality Forum “40 under 40 Leader in Minority Health” and received the 2023 Bernard Lown Award for Social Responsibility, a national award for health justice leadership.

William Weber, MD, MPH is an Assistant Professor of Emergency Medicine at Rush University Medical Center in Chicago. As an emergency physician, he has cared for hundreds of trauma victims with different injuries, including many victims of dog bites. As part of his clinical practice, he often repairs lacerations and treats wound infections. His fellowship in global emergency medicine focused on the rights of those in carceral settings. He helped found and serves as the current medical director of the Medical Justice Alliance, a nonprofit organization that trains volunteer physicians to review medical records for patients in custody and communicate medical concerns to courts and administrative agencies in support of their medical rights. He is a fellow of the American College of Emergency Physicians, serves on their Medical-Legal and Public Health Committees, and has developed policy statements regarding injury prevention.

Kathryn Himmelstein, MD, MEd is an infectious disease physician at Massachusetts General Hospital and Clinical Fellow in Medicine at Harvard Medical School. She sees patients both in the hospital and clinic settings, caring for patients with a wide variety of infections, including infections related to animal bites. She is also a researcher focusing on social policies to promote health equity, having studied wide-ranging policies such as raising the minimum wage, reparation payments to Black Americans, and more equitable funding of health care facilities. Since 2014, she has served as a member of the National Working Group of the medical student and physician organization White Coats for Black Lives. In that role, she helped create the Racial Justice Report Card, a tool to identify areas where medical schools and academic medical centers can more effectively promote racial justice.

Nora Abo-Sido, MD, MPH is a physician dual-trained in internal medicine and pediatrics, specializing in the care of adults and children across the lifespan. She practices as a hospitalist at Mass General Brigham. She was a Commonwealth Fund Fellow in Minority Health Policy and obtained her master’s in public health from the Harvard T.H. Chan School of Public Health where she was the recipient of the 2022 Rose Service-Learning Award for her health-equity work with the Boston Public Health Commission’s Chronic Disease Prevention and Control

Division. Her clinical, educational, volunteer, and research efforts are dedicated to improving the health of historically marginalized populations, including people and families who experience incarceration, families with sickle cell disease, immigrants, and refugees. She is also the recipient of the 2022 Medicine & Pediatrics Program Directors Association (MPPDA) Walter W. Tunnessen, Jr., M.D., Award, presented to one resident nationally for excellence in clinical care, education, and advocacy.

Minali Nigam, MD, MA is a fourth-year neurology resident and incoming headache medicine fellow at Mass General Brigham. She completed her medical school training at the University of North Carolina, where she simultaneously finished a master's degree in journalism. Her interests include the intersection of medicine, public policy, and the humanities. As a physician-journalist, she hopes to share stories that raise public health awareness and that make medical knowledge accessible to diverse audiences. She wrote and produced stories for *North Carolina Health News* and for *CNN* during the Covid-19 pandemic. Her works include topics on domestic violence, homelessness, resident unionization, and vaccine accessibility, among others.

Michele Heisler, MD, MPA is the medical director at Physicians for Human Rights and a professor of internal medicine and of public health at the University of Michigan. Dr. Heisler's research has applied rigorous health services research approaches to investigate and promote health equity and human rights among vulnerable populations. She has designed, evaluated, and implemented novel cross-sectoral programs that have improved health and health equity in populations experiencing health disparities. She has also applied rigorous research methods to investigate health impacts of human rights violations and advocate for remedies. An expert in the Istanbul Protocol (IP), she has conducted hundreds of IP-based medical-legal evaluations of survivors of torture and trainings for clinicians. She is an elected member of the Association of American Physicians and of the National Academy of Medicine.

APPENDIX B: Brief Descriptions of Cases with Medical Record Documentation of Injuries and Treatment

1. Case of Police Dog Attack on 22-year-old woman in Kern County, California on July 21, 2013

This 22-year-old woman (identifying information redacted) suffered an attack by a police dog that caused multiple deep lacerations to her left calf. On July 21, 2013 in Kern County, she had been in a car with her ex-boyfriend who became aggressive, causing her to leave the car. He followed her and pinned her to the ground. When police were summoned to the scene, a police dog escaped from the patrol car's back seat and repeatedly bit her exposed left calf until a police officer was able to pull the dog off her. On September 4, 2014, more than a year after the attack, a physician who was board-certified in Physical Medicine and Rehabilitation, Pain Management, and Internal Medicine met with her and conducted a thorough history and physical examination. In a legal deposition, he also summarized medical records describing her injuries and treatment.

A brief summary of her medical presentation and treatment since the dog attack is as follows:

July 21, 2013: Paramedic reports at the scene recorded that she described pain as 10/10 and sharp in quality. The paramedics gave her 10 mg IV morphine en route to the hospital.

Emergency room records indicated that she described the pain as "constant, sharp, severe, and worse with palpation." Per records: "A 10 cm laceration was identified on the medial lower left leg. The wound was explored, irrigated and debrided. The laceration was repaired in two layers using 4-0 vicryl for subcutaneous levels and 4-0 ethilon for the superficial layer. The patient was given Augmentin, Percocet, and instructed to keep the leg elevated."

July 22, 2013: Due to poorly controlled pain and redness at the wound, she returned to a hospital, was admitted and started on IV antibiotics for infection. Hospital records indicate that during the admission she was experiencing nightmares about the dog attack.

After discharge, she started wound care therapy at another hospital. Two wounds were noted along the left medial lower leg and left posterior lower leg. The wounds required additional debridement. She continued over the course of weeks of wound therapy to experience pain up to 7/10 in the calf and ankle. Treatment included balance board, self-scar tissue mobilization, and stretching. She was prescribed a home-based exercise program.

She continued to see a pain management specialist and tried multiple medications, including opioids and creams with poor pain control. A TENS unit, local lidocaine injections, sympathetic

blocks, and ketamine were trialed with poor effect. She also underwent treatment with Plastic Surgery and Dermatology physicians, with consideration of scar tissue removal to alleviate pain.

The specialist writing the September 4, 2014 evaluation noted that before the attack she had been a healthy woman with no prior medical or surgical history. She had worked part-time and been active in sports before the attack, but since then had not been able to work or participate in any sports.

On review of systems on September 4, 2014, she endorsed unintentional weight loss (15 lbs.), nausea, constipation, easy bruising, rash, depression, anxiety, panic attacks, emotional problems, headaches, dizziness, confusion. On physical examination, for the skin exam he noted "two small punctate, raised hypertrophic lesions on the left anterior chest measuring 0.5 cm in size. There is a large 'Y' shaped hypertrophic scar across the mid-anterior leg with 4 smaller satellite lesions above it. Along the posterior leg is a 1.5 cm x 5 cm lesion that is also raised and warm to the touch. There are also 4 satellite lesions that are in proximity to the posterior lesion as well."

On musculoskeletal exam, he noted, "tenderness to palpation over the hypertrophic scar tissue (keloid) and warmth as mentioned previously. Pressure causes pain over the scar with migration of pain beyond the confines of the scar itself 0.8 cm below the tibial tubercle, the right calf measurement is 39.5 cm and the left calf is 38 cm. There is tenderness to palpation along the hamstring muscles but no focal area of intense pain."

He diagnosed her with chronic pain syndrome, likely complex regional pain syndrome Type 1, Keloid formation, mood disorder, and patellofemoral syndrome. He recommended additional tests and trials of pain treatment procedures.

That same physician evaluated her again on March 12, 2015 in a follow-up examination. He reported in his note that at that visit, she continued to "describe the pain as encompassing the front and back of her left leg. The pain is achy with descriptors including 'vise-clamp' and 'toothache-like' pain. The pain is present from the time she wakes up till the time she goes to bed. The intensity varies from 5/10-8/10 and is based on her activities that day. Despite this, she continues going to the gym 2-3x/week at her pain physician's recommendation." She also reported continued pain to light touch of the left leg and difficulty standing on that leg for any length of time. She reported that she still had been unable to return to work and was unemployed.

Since the prior evaluation on September 4, 2014, she had undergone three lumbar sympathetic blocks, with the final block only providing two to three days of pain relief. She was at that time undergoing a spinal cord stimulator trial that was providing some pain relief but was also causing troublesome itching.

On review of symptoms, she continued to endorse weight loss, fatigue, weakness (left leg), headaches, confusion, depression, and anxiety. She was also having difficulty falling and staying asleep.

On physical exam, the physician noted, "Multiple hypertrophic scars along the anterior, posterior, and lateral left leg. These are of variable size and coloration. Hyperesthesia to light touch. Hair around the largest scar is thicker in texture but doesn't appear darker in color." He concluded that she continued to meet diagnostic criteria for complex regional pain syndrome, Type 1. He recommended permanent implantation of a spinal cord stimulator.

There are notes from two subsequent evaluations by this physician. At the time of the last visit on August 25, 2015, she continued to have 4/10 pain with the spinal cord stimulator turned on, and 7/10 without the stimulator. She was only able to use the stimulator for up to six hours as the battery site became hot and painful so she had to turn it off. Equipment representatives were working to address the problem but had not been successful. Her symptoms on review of systems were unchanged, as was the physical exam, and she continued to be unable to work.

2. Case of Police Dog Attack on Laureen Frausto in West Covina, California, on August 24, 2019

Ms. Laureen Frausto was asleep the night of August 24, 2019, in an abandoned building when she awoke in excruciating pain with her left arm trapped between the clenched teeth of a police dog that was off leash while police officers searched the building. Upon arriving at the building, the officers did not command the dog to release her while they questioned her. After the dog dragged her over 40 feet by her arm, the police officer commanded the dog to release. By the time the dog released her arm, she had several open wounds that penetrated to broken bones in her forearm from which torn muscle belly protruded. The officers ordered her to remain with her stomach to the ground and wrenched her broken, bleeding arm behind her back and handcuffed both wrists together. Only then did they call for medical assistance.

Per the emergency room notes of August 24, 2019, at presentation Ms. Frausto complained of 6/10 pain exacerbated with movement. X-rays showed left open radius/ulna fractures. She was admitted to the hospital and underwent surgery the next day. The operating note reported, "Multiple dog bite wounds to the dorsal and volar forearm and wrist with penetration down to the forearm bones and also dorsal and wrist bones and multiple areas of torn muscle belly protruding from the wounds." The wounds were debrided and the fracture sites were reduced with placement of clamps and bars in the reduced position. The wounds were then sutured.

There is no further medical documentation provided after this initial surgery.

3. Case of Police Dog Attack on Anthony Paredes in San Jose, California, on February 7, 2020

Mr. Anthony Paredes at the time of the attack was a 44-year-old Latino man who was chased by police after fleeing with his girlfriend from a Safeway store where his girlfriend had allegedly stolen two bottles of Tequila. A helicopter police unit saw Mr. Paredes lying under a large tree and announced that officers on the ground were preparing to use a police canine unit, warning residents to stay inside their houses. Mr. Paredes climbed into a large waste bin while officers

called for him to surrender. An officer tipped the bin over and ordered his dog to bite. The dog clamped down on Mr. Paredes's neck, crushing his throat. Rather than releasing the dog, the officer pulled on the dog's harness as the dog shook its head violently left to right, with Mr. Paredes's neck still clamped between his jaws, further tearing open the wound. The officer pulled on the harness with enough force that both the dog and Mr. Paredes's torso were lifted from the ground. The dog maintained its grip on Mr. Paredes's neck for at least 60 seconds before the officer released him.

During Mr. Paredes's hospitalization, medical records reveal that he was diagnosed with a hyoid bone fracture, thyroid cartilage fracture, C5 anterior tubercle fracture, and multiple lacerations to the anterior neck and face "for a total of 25 cm." He underwent sutured laceration repair to his anterior neck wounds and right jaw wound for a total of 18 cm and dermabond repair of anterior neck lacerations for a total of 7 cm. Physicians were concerned he might have an esophageal tear, so multiple tests were done. Cat Scan of the neck and chest with oral contrast was inconclusive. An esophagram with follow-up chest CT revealed no evidence of leak. He required antibiotics as there was evidence of wound infection. As his voice was very hoarse, a laryngoscope was performed that showed vocal cord swelling but no tears. A head CT showed no intracranial hemorrhage. A CT angiogram showed no arterial damage. He was discharged to jail with oral antibiotics and pain medications.

According to his legal Complaint for Damages, once a talented singer, he was no longer able to sing, his voice was permanently changed, and in the two years since the attack and when the Complaint was filed, his "throat makes clicking sounds when he speaks." His neck remained grossly disfigured, and he continued to suffer neuropathic pain and left shoulder pain.

4. Case of Police Dog Attack on Talmika Bates in Brentwood, California, on February 10, 2020

Ms. Talmika Bates, a 24-year-old Black woman, was attacked by a police dog during the day on February 10, 2020. Police approached her as she was behind a bush in a field after the police department received a request to help locate three suspected shoplifters of cosmetic products from a nearby store. Although Ms. Bates was unarmed, one officer deployed his German Shephard police dog without providing a warning. The dog bit into the top of her head, pulling her head back so that she fell backwards and struck her head. The dog continued to bite and gnaw at Ms. Bates's head even when the officer commanded him to release. After more than a minute of the dog attacking her, the officer had to physically remove the dog from her, pulling on the dog's leash. Large pieces of her scalp were ripped from her head, exposing bone and tissue as the dog maintained its bite, causing increased tearing and ripping of the scalp. The officer then handcuffed her, and she was transported by ambulance to a nearby medical center for emergency care. According to police body cameras, she at no times resisted, tried to flee at the time force was used, nor threatened the officers or tried to assault them or anybody.

In the emergency room, per medical records, she reported severe head pain, dizziness, some anterograde amnesia. She did not know if she had experienced loss of consciousness from her fall. Head CT in the emergency room showed soft tissue damage but no hemorrhage or skull

fracture. She then underwent immediate laceration repair surgery with plastic surgery with 25 cm laceration repair and 12 cm tissue rearrangement.

On June 29, 2022, and the following day, more than two years after the attack, Ms. Bates underwent a neuropsychological consultation by a board-certified clinical neuropsychologist for which the report was available for review. At that visit, she reported experiencing headaches, sensitivity to light, vertigo, tinnitus (constant ringing in the ears), and dizziness. Cognitively, she reported significant difficulty with attention and concentration, multitasking, processing information, and short-term memory problems corroborated by her mother. Emotionally, she reported depression from her disfigurement and scarring, with persistent low esteem, loss of interest, feelings of worthlessness, helplessness, and changes in sleep patterns. She also reported significant changes in her personality since the attack, including crying easily, laughing inappropriately, irritability, difficulties being around others, mistrust, lack of motivation, and apathy. Her score on the Beck Anxiety Inventory indicated mild symptoms of anxiety that included tingling sensations, fears, dizziness, feeling terrified, nervousness, and feeling scared. Her total score on the Lability Scale indicated symptoms of pseudobulbar affect.

The clinical neuropsychologist diagnosed Ms. Bates with: 1) Post-Traumatic Stress Disorder (PTSD) with associated symptoms of depression and anxiety, pseudobulbar affect, and personality changes; 2) Mild diffuse traumatic brain injury with symptoms of post-concussion syndrome; and 3) Post-Traumatic Brain Syndrome aggravated by emotional issues. The neuropsychologist stated that Ms. Bates's prognosis for full recovery was "guarded at best, given the complexity of her physical, cognitive, and emotional symptoms, and the time that has passed since the injury." Risk factors suggesting poor prognosis of recovery included early onset of pain, particularly headaches; post-injury sleep disturbances; dizziness; memory problems after injury; post-traumatic stress disorder with anxiety and depression; and poor self-esteem.

The neuropsychologist recommended evaluation and treatment by a psychiatrist, ongoing psychotherapy, cognitive rehabilitation once a week for 6 months, and a follow-up neuropsychological assessment in 12 months to evaluate her progress. He also referred Ms. Bates to medical specialists for treatment of her headaches, dizziness, tinnitus, and vertigo. No further medical reports after this visit were available for review.

5. Case of Police Dog Attack on Jason Anglero-Wyrick in Sonoma County, California, on April 4, 2020

Mr. Anglero-Wyrick, a 35-year-old Black man, was attacked by a police dog on April 4, 2020. He was roused from sleep by his fiancée when police deputies arrived at his residence. He went out his front door to find police officers with weapons drawn and pointed at him. He and his fiancée put their hands in the air. As at least three deputies held the couple at gunpoint, one deputy removed a Belgian Malinois police dog from his patrol car. As deputies commanded Mr. Anglero-Wyrick to get on his knees, one deputy fired his taser at him, causing him to fall to the ground face down with his arms outstretched. The police dog was then deployed and clamped his jaws down on Mr. Anglero-Wyrick's anterolateral right lower leg. With the dog's teeth sunk deep into Mr. Anglero-Wyrick's leg, the dog began to pull, twist, and shake its head, tearing

open the deep puncture wounds. The dog maintained his grasp on the leg and continued to tear for at least 30 seconds. The deputy began pulling the dog's collar, lifting the dog and Mr. Angelro-Wyrick's leg off the ground. The dog released its grasp only after at least 90 seconds, as documented in an 18-minute cell phone recording Mr. Angelro-Wyrick's stepdaughter took of the whole event and posted to YouTube.

He was taken to the emergency room on April 4, 2020, and admitted to the hospital. On presentation per hospital records, "Patient was found to have a large avulsion to the anterior lateral infrageniculate pretibial area that is approximately 8 x 10 cm. There is exposed devitalized muscle as well as exposed fascia. There was a small lateral hanging skin flap that appears mostly viable. Patient has loss of sensation to the dorsum of the foot as well as to the distal lateral lower leg. He is able to wiggle his toes but is unable to dorsiflex his foot. Unable to assess strength of plantarflexion because range of motion is limited by pain." He then underwent excisional debridement with anesthesia of 60 cm including skin, subcutaneous tissue, fascia, and muscle. He was given IV antibiotics and was taken to the operating room on April 15, 2024 for a split thickness skin graft to his lateral right leg from his right thigh. Several days later he underwent a repositioning of the right lower extremity leg wound as it apparently contained some soft tissue, most likely from residual saliva from the dog. The necrotic fat under the flap was debrided. After review of imaging studies and examinations patient was found to have a partial right peroneal nerve palsy.

After his discharge from the hospital on April 26, 2020, he required twice weekly debridements of his wounds from a wound treatment center. Per those records, he continued to report poor mobility and severe pain despite being on pain medication.

6. Case of Police Dog Attack on Jennifer Fink-Carver in Pleasant Hill, California, on May 9, 2020

Ms. Fink-Carver was bit by police dogs when police officers entered the residence she shared with Jason Fink on May 9, 2020, in response to a reported possible disturbance of the peace. Ms. Fink-Carver was bit several times on her right thigh and Mr. Fink was bit on his back, hip, and leg.

Ms. Fink-Carver was taken by ambulance to a local hospital. The emergency physician recorded that "The patient has five deep gaping large wounds approximately 6 cm in length over the posterior lateral aspect of her right thigh. There is fat evisceration. There is no significant bleeding. The wounds appear at least 1-1/2 cm deep. On the medial right thigh the patient has a hematoma that is round approximately 7 cm in diameter there is a 2 cm laceration with slight blood oozing in the superior aspect of this and a second 2 cm laceration the inferior pole of the hematoma." The emergency physician then consulted a plastic surgeon because the "wounds are deep and large with fat evisceration coming from 5 of them."

The plastic surgeon recorded that "The right thigh has multiple linear lacerations as well as puncture wounds into the level of the deep subcutaneous tissue mostly at the lateral posterior aspect of the thigh however also the posterior medial aspect of the thigh as well. The total length

of lacerations measures approximately 25 cm. There is some fat evisceration from the wounds as well as areas of swelling within the subcutaneous tissue.”

She then underwent debridement and wound repairs by the plastic surgeon. Over the next months, she experienced several wound infections requiring antibiotics and further debridement and drainage. She received wound care twice a week.

At a physical examination with a plastic surgeon on December 12, 2020, Ms. Fink-Carter continued to have neuropathic pain at the site of the injuries. She reported feeling self-conscious about her scars, indentations, and lumpy appearance of her right thigh, so that she now wore clothes to cover that area. She reported intermittent sharp pains in her thigh like a sharp pin and constant itchiness. She was unable to return to her desk job because of significant discomfort with sitting directly on the injured area while her job that requires long periods of sitting. Prolonged standing was not an option at work as it resulted in increased swelling of the affected lower extremity.

The plastic surgeon concluded that "Ms. Fink-Carver has traumatic scars of the right thigh, both full thickness skin scars from punctures and lacerations, and deep soft tissue scars from crush injuries and inflammatory/infectious fluid collection. The wounds are still within healing phases, which will continue for 1-2 years from the time of injury. Due to the complications of recurrent infection and fluid drainage, the healing process has been delayed by at least a few months in the affected areas ... It is my opinion offered with a reasonable degree of medical certainty that the dog bites sustained by Ms. Fink-Carver on 5/9/20 directly resulted in her having permanent suboptimal scars and contour deformities of her right thigh.”

Endnotes

¹ Physicians for Human Rights is a U.S.-based not-for-profit human rights NGO that uses medicine and science to document and advocate against mass atrocities and severe human rights violations around the world. It has a long history of documenting injuries and other adverse effects from police use of excessive force in countries throughout the world.

² SB-1421 Peace officers: release of records,” California Legislative Information, October 1, 2018, https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=20170180SB1421; “SB-16 Peace officers: release of records,” California Legislative Information, October 1, 2021, https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=20210220SB16

³ Notably, documentation of psychological effects such as post-traumatic stress disorder (PTSD), anxiety, or depression stemming from the canine violence was only available in a few cases.

⁴ The opinion received further review from Sam Zarifi, JD, PHR executive director and Christian De Vos, JD, PhD, PHR director of research and investigations. The opinion also benefited from prior research on police canine violence conducted by Rohini J. Haar, MD, MPH, PHR medical advisor. The authors would like to acknowledge the research assistance of Meha Prabhu and Julia Asfour on the literature review of this opinion.

⁵ Joshua Brice, Eric Lindvall, Nathan Hoekzema, and Lisa Husak, “Dogs and Orthopaedic Injuries: Is There a Correlation With Breed?” *Journal of Orthopaedic Trauma* 32, no. 9 (September 2018), <https://pubmed.ncbi.nlm.nih.gov/29912736/>.

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¹⁰ Brice, “Dogs and Orthopaedic Injuries,” <https://pubmed.ncbi.nlm.nih.gov/29912736/>.

¹¹ Hutson, et al., “Law enforcement K-9 dog bites,” <https://pubmed.ncbi.nlm.nih.gov/9140249/>.

¹² Ibid.

¹³ Morgan, “Dog Bites,” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1804160/>.

¹⁴ G. V. Pineda, H. R. Hutson, D. Anglin, C. J. Flynn, and M. A. Russell, “Managing law enforcement (K-9) dog bites in the emergency department,” *Academic Emergency Medicine* 3, no. 4 (April 1996): 352-359, <https://pubmed.ncbi.nlm.nih.gov/8881545/>.

¹⁵ Randall T. Loder and Cory Meixner, “The demographics of dog bites due to K-9 (legal intervention) in the United States,” *Journal of Forensic and Legal Medicine* 65 (July 2019): 9-14, <https://pubmed.ncbi.nlm.nih.gov/31029004/>.

¹⁶ Meade, “Police and domestic dog bite injuries: What are the differences?,” <https://core.ac.uk/download/pdf/82668711.pdf>.

¹⁷ Hutson, et al., “Law enforcement K-9 dog bites,” <https://pubmed.ncbi.nlm.nih.gov/9140249/>.

¹⁸ Meade, “Police and domestic dog bite injuries: What are the differences?,” <https://core.ac.uk/download/pdf/82668711.pdf>.

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