iTClamp® Case Studies

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In recent years hemorrhage control has become one of the highest priorities in patient care, and until now the only solutions for pre-hospital hemorrhage control have been direct pressure, hemostatic agents and tourniquets. These solutions require considerable training and practice to develop and maintain proficiency. Moreover, their success with difficult to control hemorrhage is highly user dependent and often resource intensive. What is needed to effectively manage hemorrhage is a tool that can be applied by minimally trained personnel in seconds with a high success rate and low pain to patients.

The iTClamp® controls bleeding in compressible zones (such as the scalp, neck, extremities, axilla and groin) by sealing the wound closed over the bleeding source. Backpressure from the hematoma creates a zone of stasis to allow a clot to form and stabilize the patient until definitive repair. The device controls bleeding in compressible areas in less than five seconds and fits seamlessly into current protocols. It substantially reduces the time and resource requirements of managing hemorrhage pre-hospital and in the emergency department, taking the emergency out of hemorrhage control.

The iTClamp has been proven effective in standard live tissue hemorrhage models as well as in cadaveric hemorrhage models however the core proof of any device is the effectiveness in humans.[1,2] In the following pages you will see and read about real-world uses of the iTClamp to control hemorrhage throughout the compressible zones, including the junctions (groin and axilla), neck, scalp and extremities.

I am sure these cases will illustrate to you how significant a solution the iTClamp is and how well it will address difficult to control hemorrhage in your patient care setting.

Sincerely,

CDR (RET) Dennis Filips, MD, FRCSC
Trauma Surgeon
President, Chief Medical Officer, Inventor
Innovative Trauma Care

1 Filips, D., *Pre Hospital Emergency Care.*
2 Mottet,K., *Journal of Trauma.*

CS1010: Palm Laceration

United Kingdom, November 2013

A 65-year-old male tripped while carrying a ceramic mug, and the mug smashed and lacerated the palm of his dominant hand. The superficial palmer artery was injured. An attending nurse applied the iTClamp in less than 20 seconds (from the initial opening of the package) to close the wound in the hospital emergency department. The wound was difficult to close due to the lack of flesh in the area. After the initial application the iTClamp was removed and repositioned in order to gain an optimal closure. The level of observed pain in the patient was minimal (3/10) upon application of the device; this dropped to 1/10 once the device was in place.

CS1025: Scalp Laceration

Holland, November 2013

A patient in Holland sustained a 10 cm long scalp wound which had a mixture of arterial and venous bleeding. In order to control the bleeding a single iTClamp was applied on scene and worked well with the other adjuncts such as oxygen and c-spine precautions. The bleeding stopped and there was not re-bleeding.

CS1047: Scalp Laceration

United States, February 2014

This patient sustained a 20-30 cm scalp laceration with arterial bleed; right parietal/frontal region of skull; no obvious swelling or hematoma. The patient apparently was very agitated and required repeat doses of Etomidate during placement of the chest tube, and suturing. Patient lacerated an artery in two places which required extensive suturing. The comment from the trauma coordinator was that the device was well received and provided them the opportunity to focus on the A's and B's and get the patient to CT, then they dealt with the laceration, without the clamp this would not have occurred in this order, we would have had to manage the laceration prior to the CT. Even the paramedic said "I will admit I was a skeptic but now believe this device has its purpose! Thanks for giving us the opportunity to use it."

CS1049: Shoulder Laceration

United States, August 2013

A 64-year-old farmer outside of Memphis was trimming his tree when his chainsaw got caught in his shirtsleeve and came down on his shoulder. The resulting 17.8 cm long, 2.5 cm deep gash in his shoulder was bleeding uncontrollably. Clinicians at the nearest urgent care center determined that he needed air transport to The Regional Medical Center of Memphis (The MED) for Trauma OR services, and local air transport service Hospital Wing was called in. Upon arrival, Hospital Wing's Jan Weatherred RN immediately applied iTClamp, having been trained on it earlier that day.

Within minutes of applying two iTClamps to the wound due to its length, the bleeding stopped, the patient stabilized, and the aircrew was able to transport him to The MED where surgeons sutured him up. Eight hours later, he was released from the hospital. "The iTClamp provided a quick and easy solution to an otherwise potentially life threatening injury," commented Weatherred.

Dr. Joe Holley, Hospital Wing's Medical Director, led the service's adoption of the iTClamp. "Severe hemorrhage continues to be a leading cause of morbidity and mortality. The iTClamp has given us a rapidly deployable means to effectively control these situations in the field. The iTClamp is quickly applied, portable, effective, and doesn't disrupt distal blood flow like a tourniquet. The crew can quickly control life threatening bleeding and proceed with additional important patient care activities. Hospital Wing has always led the way in patient care and innovation, and I'm really excited to be a part of this latest development in patient care."

CS1053: Scalp Laceration from Fall

Germany, June 2014

A female patient fell from an attic approximately 3 m high and hit stony ground. On arrival of the helicopter crew, the patient was fully immobilized on a spineboard in the ALS ambulance. Patient suffered multiple traumas including rib fractures, spine fracture with complete paraplegia, skull fracture and a large 12-15 cm scalp laceration.

The large scalp wound was treated by pressure dressing and direct manual pressure by the emergency physician, but there was continuous heavy blood flow out of the wound. The team made the decision to remove the dressing and ascertained that wound edges could be approximated. The paramedic of the helicopter crew decided to apply the iTClamp. Additionally they delivered manual pressure above and below the iTClamp placement. Bleeding stopped immediately. Afterwards the patient was transferred to the helicopter. On arrival in ER, bleeding was controlled – no re-bleeding was noted after application.

CS1054: Foot Laceration

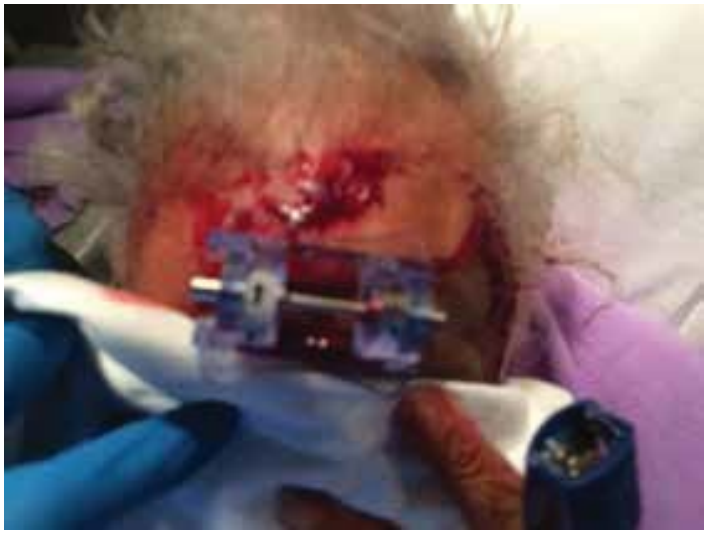
Germany, June 2014

Following a domestic altercation, a 41-year-old male patient stepped on broken glass creating a 6 cm long laceration to the arch on the sole of his right foot. The patient was given a towel to wrap his foot prior to EMS arrival. EMS arrived to find the patient conscious with a blood soaked towel around his foot. In accordance with their EMS hemorrhage control protocol, paramedics removed the towel and put a pressure dressing on the foot. The patient was then transferred to the ambulance.

On route to hospital, the pressure dressing failed to control the bleeding, as the dressings became blood soaked similar to the towel that was used previously. Following the hemorrhage control standard of care, the pressure dressing was subsequently removed and the iTClamp was applied.

While the iTClamp was painful on application, once applied the pain was tolerable and the bleeding became manageable for paramedics. The patient received IV fluids on route and remained stable (blood pressure 160/100 mmHg and GCS = 15).

CS1067: Forehead Laceration



United States, July 2014

An elderly female patient was found sitting on the floor next to her bed holding a towel to her forehead. A large amount of blood was noted on the patient's pajamas. Upon examination a 6 cm laceration was found on the patients forehead with moderate amount of dark red blood flowing from the wound. The crew controlled the bleeding with an iTClamp and the patient was transferred to hospital without incident.

CS1070: Shin Laceration

United States, August 2014

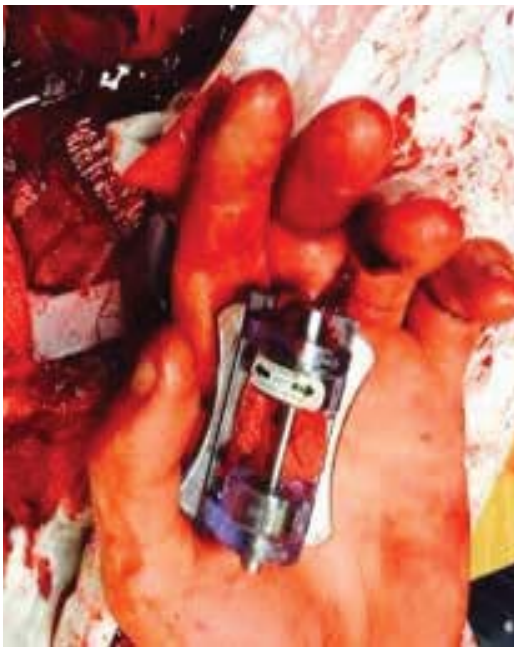
In Pompano Beach, Florida a male riding a bycicle was struck in the shin with the bicycle pedal leaving a 4-5" open laceration. A single iTClamp was applied in under 30 seconds to the wound, controlling the bleeding. There were no patient or caregiver concerns using the device.

CS1086: Hand Laceration

United States, August 2014

The patient's injury occurred when he struck a chain linked fence in anger causing a 3"-4" linear laceration on the hand. The wound was approximately 1" wide exposing muscles, tendons, and veins. There was a steady flow of venous blood coming from the wound. Two iTClamps were applied, the area around the wound was cleaned, and bleeding ceased. While en-route to the Hospital, one of the clamps had to be repositioned. The patient was moving the wounded extremity and bumped up against the arm rail of the stretcher causing it to become dislodged. Upon arrival at the hospital, the clamps were removed in the trauma room while under the supervision of the trauma surgeon. All bleeding had ceased.

CS1084: Hand Laceration



United Kingdom, September 2014

A 20 year-old male put his hand through a glass conservatory severing the palmer and digital artery. The girlfriend's mother is a nurse, she applied a pressure dressing and drove him to the nearest hospital, which is a non-trauma centre. The pressure dressing failed on route. Upon arrival at hospital the patient lost over a litre of blood. An iTClamp was applied which failed on the first application. The wound was packed and then the iTClamp attempted again. The bleeding stopped for the palmar artery. The digital artery was packed with a pressure dressing and the bleeding stopped. The attending physician said that this was the "hardest place to clamp ever!" With no surgeons or operating theatre on site the clamp turned an emergent potentially deadly situation into an urgent situation where the patient could sustain the long transfer to a plastic surgeon for repair. Patient was referred to a plastics center and timely surgery without pressure.

CS1008: Groin Injury

Denmark, May 2013

A 39-year-old male drug addict presented with severe venous bleeding from the femoral vein in the groin due to multiple injections (IV abuse). Control of the bleeding was initially attempted by direct pressure with a dressing, however this was ineffective and the patient lost a significant amount of blood, estimated to be 1-1.5 L. The physician at the scene applied the iTClamp, which quickly and completely stopped the bleeding. No subsequent re-bleeding was observed. The patient did briefly experience minimal pain (4 out of 10, as observed by the physician) during application; but the pain did not continue once the device was in place. The physician was extremely satisfied with the performance of the device (rated the device 10 out of 10). There were no issues associated with application or removal of the device.

CS1015: Neck Bleed

United Kingdom, August 2014

The patient presented with an arterial bleed two weeks post-op removal of BCC (basal cell carcinoma). The patient had lost half a litre pre-hospital and soaked through 4 Gamge pads on route. Still heavily bleeding on arrival to hospital. The iTClamp was applied in hospital and remained on for 25 minutes. When the iTClamp was removed to suture, the bleeding had stopped.

CS1017: Stab Wound

Denmark, May 2013

An elderly female patient suffered a knife stab wound to the head. A physician applied the iTClamp at the scene to control hemorrhage from the wound. The physician was extremely satisfied with the performance of the device (rated the device 10/10). The patient did briefly experience moderate pain (4 out of 10, as observed by the physician) during application; however, once in place the patient experienced less pain (2 out of 10, as observed by the physician).
The physician observed very minimal pain upon removal of the device (1 out of 10). There were no reported issues associated with application or removal of the device.

CS1055: Vascular Groin Bleed

Germany, July 2014

Two weeks prior to the incident, a female patient underwent a cardiac catheter examination. During her lunch hour the patient felt something wet in her right groin. After arrival of EMS crew together with the emergency physician, severe bleeding out of the groin was noted. Application of the iTClamp was initiated and bleeding stopped immediately. The patient was transported to hospital, where the surgeon was not happy about the iTClamp. He stated that it might be useful for superficial bleeding, but not to use on vascular bleeding. However, after removal, bleeding had stopped and there was no re-bleeding.

CS1030: Neck Wound

Finland, December 2013

Approx. 7 cm wide deep wound to the neck. When Hems doctor arrived police were pressing the wound and there was bleeding, not massive but noticeable bleeding. First they put Celox powder in and after that, they used one iTClamp. There was some leakage but they decided that one clamp was enough. The iTClamp was easy to use. The patient went to Helsinki University Hospital and directly to OR. All the major veins were ok, so the bleeding was from arterioles and smaller veins.

CS1031: Neck Wound

Finland, October 2013

Patient sustained a 7 cm wide deep stab wound to the neck. Patient was conscious but strongly hypovolemic when Hems service arrived. There was no heavy bleeding from neck area and injuries were easy to observe. Patient was breathing through the cut on trachea, he was intubated orally without any problems. After intubation the laceration was closed using one ITClamp. Indication for use was to prevent air embolism and protect tissues. iTClamp was easy to use and worked very well. Transport to hospital and patient went immediately to OR. Conclusion after surgery was a follows: Deep cut over right m.sternocleido to left m.sternocleido. Trachea was cut anteriorly, posterior wall was ok. There was small cut in right vena jugularis interna. Arteries and vagus nerve were ok.

CS1044: Leg Laceration

United States, September 2014

A patient sustained a laceration on the lower left extremity from a knife. An iTClamp was applied to the wound however the wound was longer than the iTClamp. Bleeding was not controlled well however, that is likely because a second device should have been applied.

CS1051: Stab Wound

United States, April 2014

A patient was involved in a domestic altercation which resulted in a serious laceration to the shoulder by way of a hunting knife. Two clamps were used to seal the wound and the patient was transported in about 30 minutes to the local hospital where EMS removed the iTClamps for ED staff; a clot had formed. The clamp worked well. The only issue was the difficulty of repositioning clamps when placed side-by-side. They had a little leakage and had a hard time getting to the buttons.

CS1069: Gunshot Wound

United States, July 2014

A man was found by EMS sitting upright on the ground. He reported hearing a single gunshot, and that he was only shot one time. On examination, EMS noted that the patient had one small caliper gunshot wound to the left upper thigh with an exit wound to the left middle thigh, with both injury sites not bleeding. This patient was fully immobilized and placed on a cot. Once fully examined the patient was found to have normal vitals, was given O2 and two large bore IV's were placed. iTClamp was then applied to the patient's exit wound with a 2X2 gauze applied to the entrance wound. Patient was transported to the hospital and remained stable throughout the transport.

CS1080: Neck and Scalp Bleed

Germany, August 2014

A 54-year-old man was assaulted with a knife and sustained two stab wounds. One stab wound right side of neck, approx. 3 cm behind a line down from the right ear and a second stab wound to the temporal right, knife blade recoiled from bony structure and caused a cut. Due to the severity of injury the patient had severe blood loss, approximately 1.5 liters. A single iTClamp was applied to each wound and the bleeding stopped immediately.

There were no problems on airway management with the neck injury. It was easy to intubate the patient before he was transferred to the operating theater. They removed the iTClamp from the neck and the bleeding started spurting again. They replaced the iTClamp and started carefully with the wound treatment.

The iTClamp controlled the massive arterial hemorrhage due to the stab wound on the head. This stab wound dissected the A. temporalis. The iTClamp caused a pressurised hematoma close to the artery and formed a stable clot between iTClamp and cranial roof which was removed during the surgical repair. In this case the iTClamp was lifesaving! Patient was transferred from ICU to peripheral ward after 24 hours and was discharged home.

CS1087: Arm Bleed

United States, September 2014

Male patient sustained a laceration on his arm from a dog bite. Two iTClamps were used to control the bleeding. The bleeding was controlled until the patient dislodged the device at which time it was re-applied.

CS1088: Leg Bleed

United States, September 2014

The person had a 3 cm puncture wound to the left thigh. The bleed was arterial. The patient had lost 500-1000 cc's of blood. The iTClamp was applied and the bleeding stopped.

CS1100: Catheter in the Groin

Germany, October 2014

After a pre hospital cardiac arrest resuscitation. An 89 year old male patient underwent a cardiac catheter intervention in the catheter lab. The patient was then transferred to the ICU for therapeutic hypothermia.
The Patient was anti-coagulated. During dilatation of the femoral vein the vessel was damaged which led to a continuous venous bleeding. Direct pressure was applied by a team member, which could not stop the bleeding.
The patient's condition subsequently deteriorated (arrhythmia and hypotension) and the decision was made to apply the iTClamp. This facilitated the team members becoming hands free in order to deal with other important lifesaving measures. The external bleeding stopped directly after clamp application and a subcutaneous hematoma formed without a considerable drop down in hemoglobin.
After the situation stabilized the iTClamp was removed without re-bleeding.
A comment from the treating physician: "Due to application of the iTClamp, we were able to stop the bleeding immediately and our team members hands were freed up to perform other important and life-saving measures in this dramatic situation."

CS1048: Head Laceration

United States, September 2013

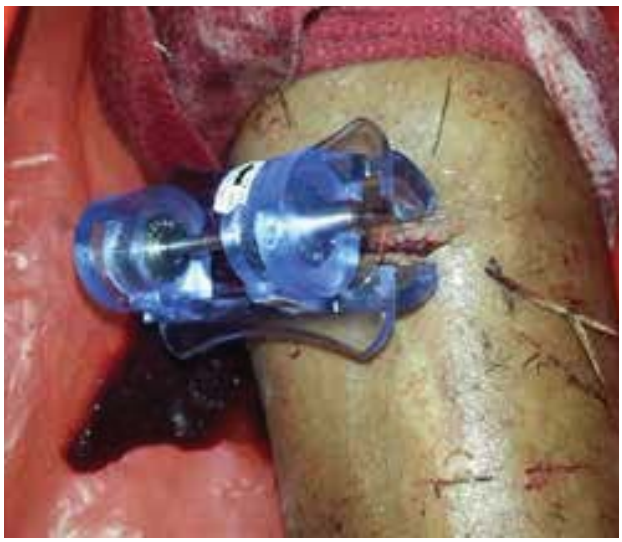
Following a motor vehicle crash the patient sustained an I-shaped scalp laceration where bleeding was hard to control. Two clamps were placed on the wound in hospital and the bleeding was controlled.

CS1071: Scalp Laceration

Germany, August 2014

Following a four vehicle collision on a freeway in Germany, a 54-old-male occupant of one of the trucks sustained a 10 cm long laceration on his scalp. An iTClamp was applied by the attending physician in the helicopter to control the bleeding. The bleeding stopped immediately.

CS1057: Leg Injury



South Africa, March 2014

Following a car versus pedestrian incident, the pedestrian sustained a compound tib/fib fracture with a horizontal 3 cm laceration on the left leg. Before advanced care arrival, bandages were applied to the wound but they did not adequately control the bleeding, as blood was seeping through. The iTClamp was initially placed too high up on the wound which resulted in blood escaping out the bottom corner of the wound. The iTClamp was re-positioned and the bleeding stopped.

CS1059: Head Trauma

Europe, December 2013

This patient sustained a severe head trauma following a highway motor vehicle collision. The iTClamp was used to get control of the bleeding in combination with gauze. The paramedic expressed that “I sincerely do think the iTClamp is a useful tool to control hemorrhagic bleeding pre-hospital with or without a hemostatic gauze (like Celox, Combat gauze, Hemcon etc).”

CS1065: Head Injury

United States, August 2014

Life Link III was called to the scene of a rural MVC T-bone collision between a full size pick-up truck and a 4 door sedan with prolonged extrication. When Life Link arrived, ALS and Fire/Rescue was already on scene. Driver of the pick-up truck was uninjured. The first passenger in the sedan was pronounced at the scene and the driver of the sedan was transferred to Life Link III for transport to hospital. The driver of the sedan sustained a 10 cm laceration to the right temporal region of his skull with pulsatile bleeding. Gauze pads were already in place but the bleeding continued. The Life Link team applied more gauze to the wound to stop the bleeding with no success. The decision was made to apply the iTClamp. It required 2 applications and there were some artifacts on CT that did not disrupt viewing the CT but the bleeding stopped. The temporal artery bleed was sutured in the ED and the patient was admitted for observation. The Life Link staff stated that the iTClamp was easy to use and, even though it required two applications, the iTClamp stopped the bleeding.

CS1068: Head Laceration

United States, July 2014

On July 13, 2014 in Pompano Beach, Florida, a man was walking his moped down the sidewalk when he slipped and fell striking his head on the curb. The fall caused a 3.8-5 cm laceration on the scalp. A paramedic on the scene used the iTClamp to stop the bleeding. Likely due to the sickle shape of the wound the iTClamp adequately controlled the bleeding, however, gauze was used to help with the little bit of continued bleeding.

CS1073: Scalp Laceration

United States, August 2014

Following an MVC, the unrestrained female driver sustained a 15-20 cm full thickness scalp laceration with uncontrolled arterial bleeding. The laceration was mid-forehead lateral along left temple, to behind ear. This scalp wound required two iTClamps to close the wound and the paramedics reported that it was easy to use, quick to use and worked great. While the patient did express concerns that the device would hurt, the paramedics felt that a lot of patient coaching would make all the difference.

CS1045: Leg Laceration

United States, September 2014

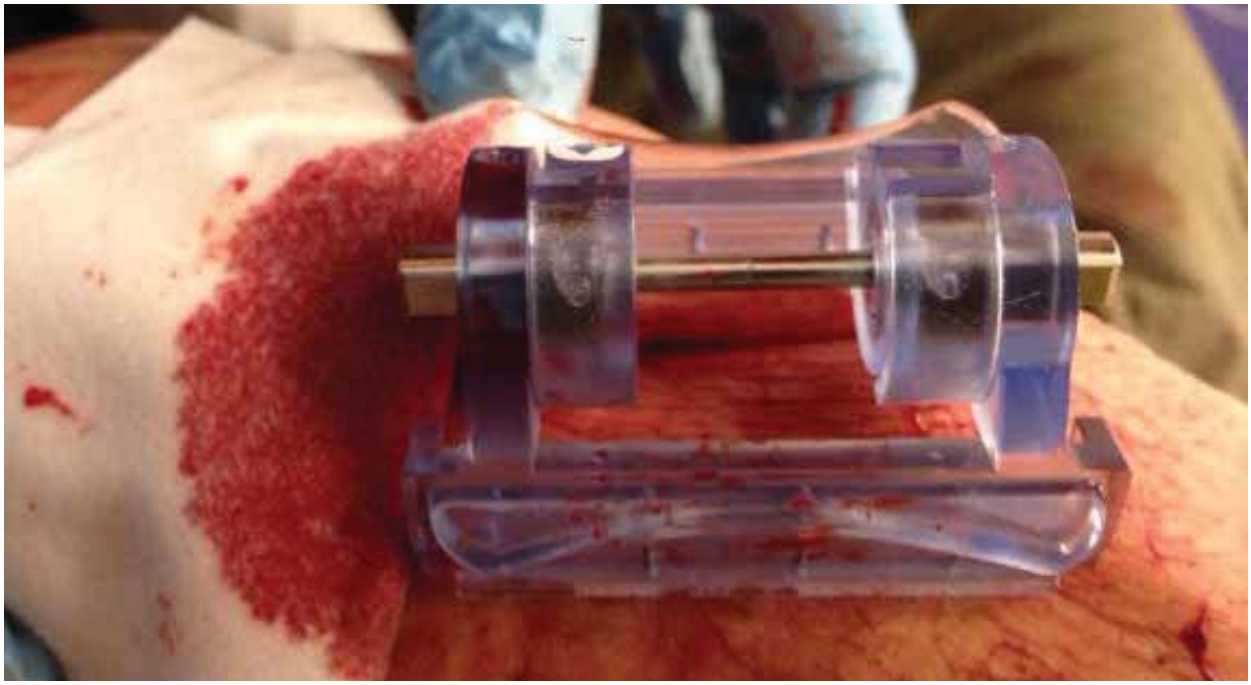
A 36-year-old male patient was air transported to hospital with a crush injury to the right leg from an industrial accident. The injuries consisted of an open tibia fracture and a 3 cm wound lateral to the knee joint with an open fibular head fracture and large degloving injury. Air transport applied two tourniquets to control the bleeding. When the tourniquets were removed at the hospital, bleeding reoccurred from the 3 cm wound. The degloved space was packed with hemostatic gauze and then closed with the iTClamp. This allowed the trauma team to focus on preparing the patient for surgical repair of the crushed extremity. The device did not cause CT scatter and was removed 9 hours later during surgery.

CS1056: Shin Laceration

Germany, July 2014

The patient was trying to move a trailer at work when he was hit with the edge of the trailer. The incident caused a laceration to the lower left extremity, specifically the medial aspect of the shin. An iTClamp was placed to stop the bleeding.

CS1066: Chainsaw Laceration



Germany, July 2014

A wood worker fell onto his chainsaw when it was not turned on. He struck his forearm on the chainsaw blade creating an 8 cm long laceration that was spurting blood. The wood worker's colleagues attempted to place a home-made tourniquet on the limb to stop the bleeding. However, when paramedics arrived, the patient's hand was cool and he was experiencing pain and tingling in the arm that had the tourniquet. The tourniquet was subsequently removed and bleeding continued. The iTClamp was then applied by the EMS physician and the bleeding stopped immediately.

Once in hospital, the iTClamp was removed by the surgeon and bleeding did not resume. The patient received sutures and was discharged from hospital 2 hours later.

CS1082: Scalp Laceration

Germany, August 2014

A 60-year-old male fell approximately 3.5 meters from a ladder at work. On EMS arrival the patient had a GCS 15, RR 20/min, HR 100/min, a radial pulse and oxygen saturation was 99%. On examination the patient had sustained a scalp laceration on the forehead above the right eyebrow that was approximately 7-8 cm long. The patient had minor pain on application (2 out of 10) and no pain once the device was applied. A single iTClamp was applied to the laceration and the bleeding stopped immediately.

CS1001: Scalp Trauma

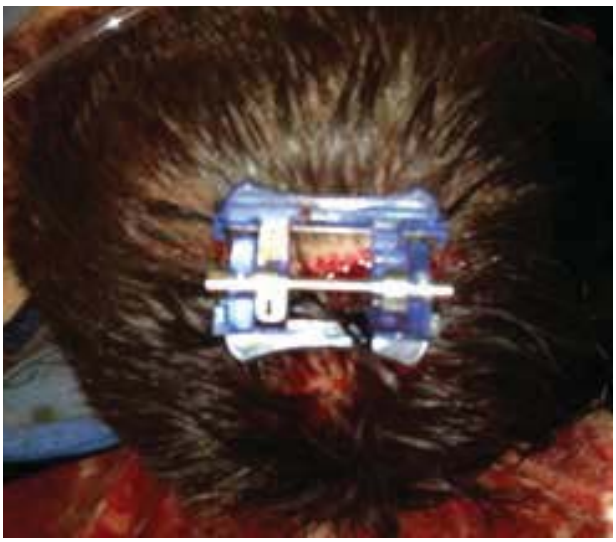
Canada, April 2013

A patient sustained a 2-3 cm scalp laceration after being hit with a golf club. At the scene, the wound did not seem to be bleeding; however, upon arrival at the hospital (in the ambulance bay), clinicians observed the wound bleeding significantly. The patient was on a spine-board with a head block, and the paramedic initially placed 4x4 gauze and a towel between the head block and wound to try and control the bleeding. When this failed, the paramedic tried placing direct pressure on the wound, which also failed.

At this point, the paramedic decided to apply the iTClamp. Due to the location of the laceration on the side of the head, the head block needed to be moved. The paramedic also slightly closed the device prior to application in order to control the amount of scalp everted between the pressure bars. The paramedic noted that the wound was extremely difficult to see due to the dark hair of the patient.

Once the iTClamp was applied, the paramedic reported the bleeding was “instantly controlled” and there was no subsequent re-bleeding. The patient briefly experienced pain upon application of the device (7 out of 10 on the pain scale), as observed by the paramedic, though the paramedic felt the pain response could have been exaggerated due to acute alcohol intoxication; however, once in place the patient did not experience any pain or discomfort (1 out of 10, as observed by the paramedic). The patient did not complain about the device or even touch the device for the remainder of the patient encounter. The physician indicated to the paramedic that he would leave the device on until he was ready to suture the wound. The physician left the device on for 5 hours at the hospital. During this time the patient underwent a CT scan and he noted minimal oozing around the wound which was easily wiped away with gauze.

CS1019: Head Trauma



United Kingdom, February 2014

A male, head-injured patient with very low Glasgow Coma Scale was brought into ED by paramedics from nearby the hospital, following an assault. A large deep scalp laceration (about 10cm long) had not been dealt with in any way on route to hospital. As paramedics and hospital staff were log rolling the patient to transfer from the EMS gurney onto the hospital gurney an iTClamp was applied to the scalp laceration and it worked really well. This patient was unconscious and required an urgent CT scan of his brain and cervical spine.
Suturing or stapling that scalp wound to achieve hemostasis would have delayed the urgent CT scan. The hemorrhage control clamp is excellent in these situations. After the patient had a CT scan and GCS was improving / Cervical Spine was cleared and the physician on duty was able to suture the scalp wound.

CS1027: Neck Wound

United States, July 2014

A male patient was involved in an altercation that resulted in a 7” vertical laceration with arterial bleeding just in front of the left ear and down the left side of the neck. When fire rescue arrived the victim stepped into the rescue and collapsed on the stretcher. His blood pressure was 80/40 and the arterial bleed could not be stopped with direct pressure. The crew quickly applied two iTClamps and the bleeding stopped. They infused 2 liters of Normal Saline and his blood pressure returned to normal. The ER Doctor loved it. By the time the crew left the hospital the patient was sitting upright and talking on his cell phone with the clamps still applied.

CS1032: Scalp Trauma

Netherlands, March 2014

This patient sustained multiple large scalp wounds after being assaulted with a baseball bat. There were two options to treat with wound – the iTClamp or a large skull bandage. However, in order to be able to keep an eye on the laceration as well as the swelling of the skull the iTClamp was chosen. It worked great. The large skull bandage wound have blocked the first responder's ability to keep a clinical eye on this severe head wound.

CS1038: Scalp Laceration

South Africa, April 2014

Patient was assaulted which resulted in a 5 cm laceration to the occiput. A trauma pad was used on the wound prior to the iTClamp placement but it was not able to control the bleeding. An iTClamp was successfully applied after two attempts. The iTClamp loosened slightly but maintained good closure of the wound. It was removed 30 minutes later in hospital and there was minimal to no bleeding.

CS1064: Head Trauma

France, July 2014

A 62-year-old female pedestrian was hit by a car in France. The patient experienced head trauma with a scalp laceration. The iTClamp was used to control the scalp laceration.

CS1079: Face Trauma

United States, August 2014

Two iTClamps were used on an inmate in Memphis, TN. Aparently someone tried to slit the inmate's throat with a straight razor. The inmate ducked and was cut across the chin, up the cheek and toward the scalp. Two clamps controlled the cheek bleed (slowed to manageable). Patient was transported to hospital where doctor wanted clamps left on until he was ready to suture. When clamps came off, blood started spurting but doctor stopped with suture. EMS feels the clamps definitely worked for the crew.

CS1085: Arm Laceration

United States, August 2014

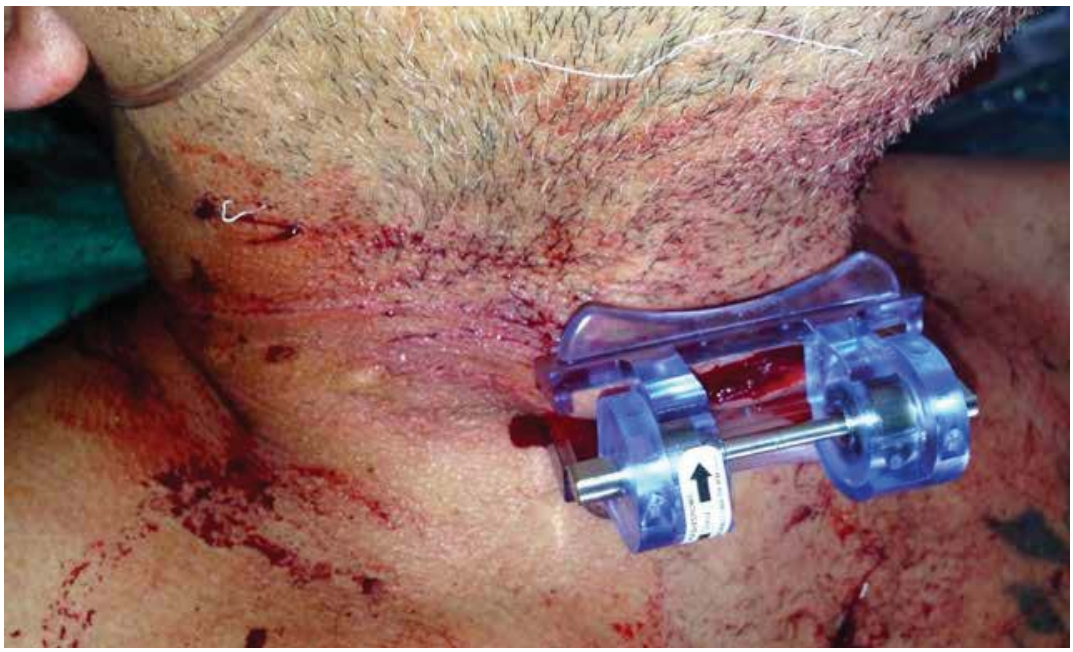
A female was assaulted with a box cutter sustaining a large laceration to upper left arm on posterior side. The laceration was approximately 6 inches long by 3 inches wide. There was bleeding present and fatty tissue was visible. Two iTClamps were applied on scene to control the bleeding. There was some initial re-bleeding that was treated with gauze.

CS1013: Self Inflicted Neck Laceration

Europe, January 2014

A 25-year-old male used a knife across his own throat in an attempted suicide. The laceration created was a large, gaping neck wound with major bleeding. A paramedic used an iTClamp to seal the wound and stop the bleeding. Image shows the wound after iTClamp removal.

CS1089: Self Inflicted Laceration



Germany, September 2014

This 47 year old male patient was arrested by police on a charge of beggary. Before being arrested he took 50 pills of clonazepam (benzodiazepin) for oral use and escaped. While on the run he caused a car accident and was admitted to the hospital. After two days he was discharged home from hospital where he tried to take his own life with a knife and broken glass bottle. When paramedics arrived on the scene at his home, no first aid had been given by the wife. The patient had 19 lacerations in total with two severe lacerations, 1 slash wound to the lower larynx with external haemorrhage and 1 on the upper chest wall with arterial haemorrhage. The physician on scene applied 1 clamp to the neck and 3 to the chest wall to stop the bleeding.

CS1014: Self Inflicted Neck Laceration

United Kingdom, April 2014

In an attempted suicide, a 50-year-old male, anti-coagulated patient, self inflicted a stab wound to the midline anterior of his neck, created a 2 cm vertical wound and piercing the trachea. The attending physician attempted to pack the wound with celox gauze, however, soon realized that the gauze was disappearing down the trachea and occluding the airway. The physician removed the celox from the airway and applied the iTClamp. The iTClamp along with direct pressure stopped the bleeding and the patient survived.

CS1052: Self Inflicted Laceration

Germany, May 2014

A 39-year-old male with known mental issues attempted suicide through self-inflicted bi-lateral, horizontal lacerations, distal to the cubital fossa. When found, the patient's heart rate was 112 beats per minute, the systolic blood pressure was 100 mmHg and the patient was not on anticoagulants.

Direct pressure was initially attempted on both sides to control the bleeding; however this was unsuccessful as the patient continued to bleed out. Two iTClamps were then deployed, one on each arm and the bleeding stopped immediately on application.

The feedback from both the paramedics on scene and the emergency department physicians was very favorable.

CS1011: Neck Wound

FALLS AND ACCIDENTAL WOUNDS

United Kingdom, August 2013

A 50-year-old male patient suffered a L-shaped neck wound approximately 6 cm long from a fall against broken glass. The iTClamp was applied in under 10 seconds and controlled the bleeding in less than 5 seconds. Application of the device caused only minimal pain (3/10) for the patient. This dropped to 1/10 after the device was in place. The amount of pain upon removal of the device was not observed.

Hudson, A., & Glazebrook, W. (2014). First UK use of the iTClamp haemorrhage control system: Case report. *Trauma*, 16(3), 214-216.

CS1012: Neck Wound

PENETRATING WOUNDS

United Kingdom, September 2013

On September 9, 2013, a 25-year-old male patient presented to the Emergency Department with a 7 cm linear neck stab wound with excessive hemorrhage. The iTClamp was applied and in less than 10 seconds the bleeding was controlled. Application of the device caused only minimal pain (3/10) to the patient. This level of pain continued after the device was applied; however, upon removal of the device minimal pain (1/10) was observed in the patient. The iTClamp was removed in the operating room and the receiving surgeon commented, “The (iTClamp) was excellent, effective and very easy to take off.”

Hudson, A., & Glazebrook, W. (2014). First UK use of the iTClamp haemorrhage control system: Case report. *Trauma*, 16(3), 214-216.

CS1083: Neck Wound

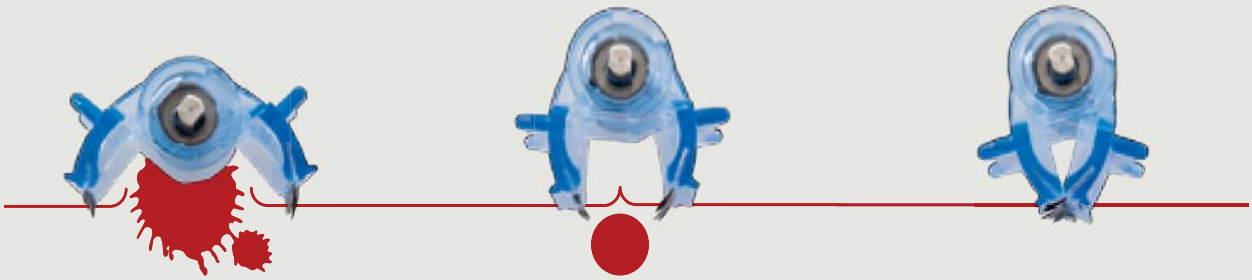
PENETRATING WOUNDS

United Kingdom, April 2014

A male patient was stabbed below the jaw line to the left side of the face/neck. The initial call suggested a catastrophic hemorrhage. On scene, the male patient had an obvious and considerable hemorrhage, with his friend applying direct pressure with his thumbs to the wound, stating it was a “spurter.” On examination the wound/ hemorrhage did not appear to be arterial but was free flowing and considerable. Direct pressure was applied with gauze and the area around the wound cleaned to expose what was thought to be potentially other wounds but were actually clots forming on the patients chin stubble. No foreign bodies were visible in the wound and the iTClamp® was prepared. The patient was warned that it may cause pain but on application the patient did not appear to be in any discomfort though was heavily intoxicated. Minor bleeding did continue and the device was reapplied without further complication and controlled the hemorrhage well. On arrival at hospital, the device was easily removed and the wound easily managed with no visible additional tissue damage from the device. The ED consultant was impressed by the device and its application but did have concerns about being used in more vascular areas of the neck.

Thompson L. Applicaiton of the iTClamp in the management of haemorrhage: a case study. Journal of Paramedic Practice. 2014;6(5):180-1.

FOR IMMEDIATE **HEMORRHAGE** CONTROL



Clamp iT

Clamp and seal the wound with minimal pain

Contain iT

Contained hematoma places direct pressure on the injured vessels

Control iT

Control your patient's emergency in seconds

iTClamp®50 SPECIFICATIONS

PART NUMBER	**9100**
NSN NUMBER	**6515-01-629-7044**
SIZE	2.33 in x 2.62 in x 1.57 in 5.92 cm x 6.65 cm x 3.99 cm
WEIGHT	2.0 oz 56.7 g
MATERIAL	Medical Grade Polycarbonate, 304 Stainless Steel
OTHER	Sterile, Latex Free

TO ORDER THE iTCLAMP®50 –

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