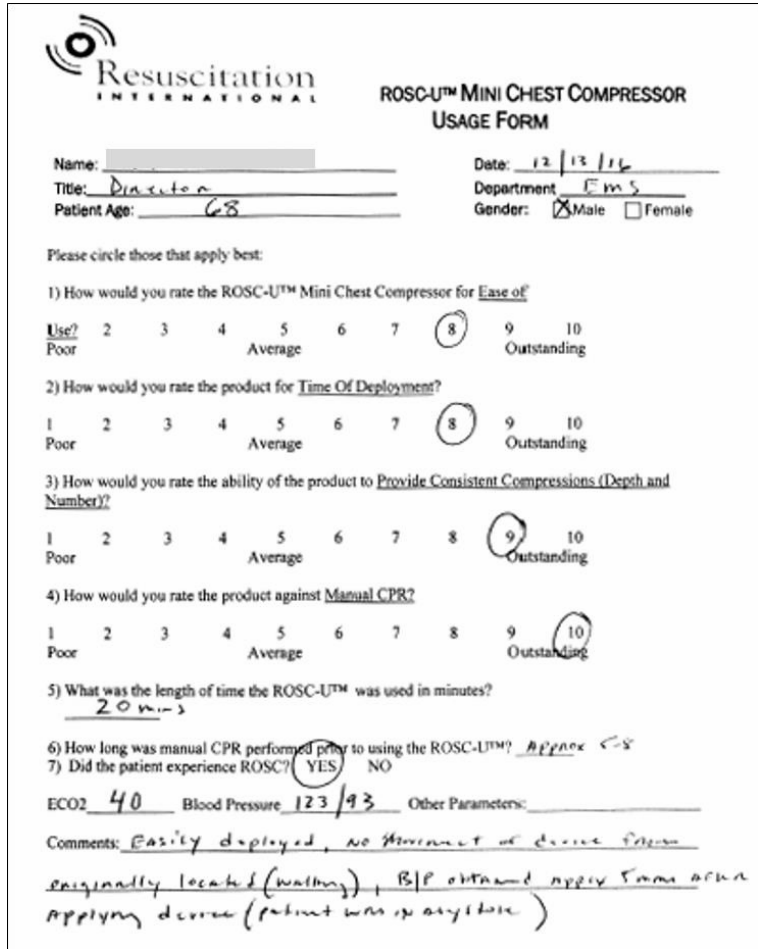


ROSC-U™ Stories

1) New York:

"We got the guy back yesterday from asystole. The cardiologist didn't believe us. He wound up having a major heart attack but he's still going. I'll let you know how it turns out. I do have to say that I was quite skeptical about how easy it would be to put the device on the patient. This guy was big and I was impressed at how easy it was to set it up and get going... I was able to get a B/P on this guy within the first 5 mins which is impressive. What was really nice is how quiet it was. You could actually hear what everyone was saying and didn't have this big thing in front of your face. The ER doctors noticed how quiet it was too. I asked them what they thought about the machine and they didn't have anything bad to say. The other devices they always complain about how noisy and violent they operate. I'm doing the eval form you gave me and will discuss purchasing at our next quarterly meeting in January. "



Resuscitation INTERNATIONAL ROSC-U™ MINI CHEST COMPRESSOR USAGE FORM

Name: _____ Date: 12/13/16
 Title: Director Department: EMS
 Patient Age: 68 Gender: Male Female

Please circle those that apply best:

1) How would you rate the ROSC-U™ Mini Chest Compressor for Ease of Use?
 Poor 2 3 4 Average 5 6 7 8 9 10 Outstanding

2) How would you rate the product for Time Of Deployment?
 1 2 3 4 Average 5 6 7 8 9 10 Outstanding

3) How would you rate the ability of the product to Provide Consistent Compressions (Depth and Number)?
 1 2 3 4 Average 5 6 7 8 9 10 Outstanding

4) How would you rate the product against Manual CPR?
 1 2 3 4 Average 5 6 7 8 9 10 Outstanding

5) What was the length of time the ROSC-U™ was used in minutes?
20 mins

6) How long was manual CPR performed prior to using the ROSC-U™? Approx 5-8

7) Did the patient experience ROSC? YES NO

ECO2 40 Blood Pressure 123/93 Other Parameters: _____

Comments: Easily deployed, no movement of device from originally located (w/arms), B/P obtained approx 5mins after applying device (patient was in asystole)

2) Michigan:

Dispatch to a 81 year old male who had walked outside and was found on the ground by the wife talking, moments later patient went unresponsive and pulseless. 911 was called and EMS dispatched. The wife, a smaller woman, started CPR on her husband, whom was large in size. 10 minutes later, very rural area, rescue arrived to continue CPR awaited the ALS echo unit. ALS arrival about 20 minutes after incident. On arrival CPR continued with rhythm check, asystole shown, CPR continued. Due to cold winter weather, patient was placed on a backboard for transition to the get into the ambulance.

Once in the ambulance rhythm was checked once more, asystole remained, he was then immediately placed on the ROSC-U. Strap was placed under the patient with ease, did not slide away from the patient even though he was on a backboard. Initial depth wasn't deep enough, increased with ease of a button. Great CPR was being done, easing up for other interventions IO, intubation, cardiac monitoring, medication delivery and etc. After each rhythm check, epinephrine was delivered while the ROSC-U was in operation. After each dose patient would have a weak brady pulsed rhythm, which shortly after would become revert to asystole and CPR continued. After the third epinephrine, a strong palpable brady pulse.

As seen in the rhythm the rate increase and became more narrow and regular. Patient had a blood pressure of 108/88 with assisted respiration. As time went on en route to the hospital, patient began to breath on his own.



Patient arrived at the hospital where they took him up to Cath lab where they placed 1 stent. It was later found out that the patient did eventually pass away over 24hrs later for unknown reasons. The ROSC-U did a great job of doing CPR. ROSC-U had excellent success in resuscitating the patient, bringing the ETCO2 into normal range with ROSC. Patient was alive and had a successful procedure done in the Cath Lab. Unfortunately, he died within 24 hour of other complications.

3) New Mexico:

Talked to the EMS Chief. He said the device worked perfectly, and it would have been impossible to get the victim down a steep hill and to the ambulance without a mechanical CPR device, without interrupting chest compressions.

- Called to a remote location, CPR in progress, private residence.
- Patient was outside 250 yards up a hill, in cardiac arrest. Early 30's about 80 kg Male.
- Family started CPR, then relieved by law enforcement who continued until EMS arrived.

EMS arrived, confirmed patient was pulseless. EKG Asystole. Decision to work code. ROSC-U device deployed within minutes of arrival. Patient evacuation down the hill was possible only because of ROSC-U. Pt. was inadvertently extubated during movement down the hill and had to be reintubated. The ROSC-U continued to work flawlessly.

Patient remained in asystole during transport to ER. Upon arrival in the ER, a foreign traveling physician looked shocked when he saw the device functioning and asked what the machine (ROSC-U) was doing. The Chief started to explain it, and the physician felt a good strong femoral pulse and said he is alive, turn off that machine. The Chief explained that the device was performing mechanical CPR.

The physician again directed them to turn the machine off. They did, and lost pulses. The Doc then anxiously stated turn it back on, which they did, and pulses returned. The ER worked the code for an hour and then called it.

4) Mississippi:

One of the things to keep in mind about the ROSC-U is that by nature of the statistics for sudden cardiac arrest survival, some 75% of the patients that it is used on in the hospital will probably not survive. We believe we can help move that needle forward, but certainly some of these patients don't really have a chance.

Yesterday, I was told a story by a Respiratory Therapist about the usage of the ROSC-U on a 22-year-old female television news reporter. At the end of the code after they had called it, they left the ROSC-U running on her, covered it with a blanket and gave the family 20 minutes to say goodbye and deal with that part of the grieving process.

Most really good hospitals spend a lot of time and effort training for and trying to help families deal with this very difficult time.

Many good hospitals also take the approach of treating all patients as if they were conscious and able to understand everything. They encourage normal communication for not only the patient, but the benefit of all people involved.

Because of how quiet and low profile our device is, it really works well for this type of situation.



Most of us have lost people near and dear to us. What we wouldn't give to hold their hand, tell them we love them and say goodbye.

5) Southeast US

The ROSC-U™ was implemented at a Southeast Level 1 Cardiac and Stroke Center in March of 2016.

Through January of 2017, the following numbers have been provided to us as to the usage and results in that 11-month period.

ROSC-U™ Results:

- 52 Reported Patient Uses (in some cases multiple times on the same patient - but we are counting it as one use per patient)
- 23 Reported Patients Achieved ROSC (44%)
- 5 Patients Reported Survived (10%)

This 500+ bed hospital currently has 2 ROSC-U™ devices, and many of the "easier" patients are brought back before the device can be placed on the patient. This hospital also had one of the highest ROSC rates in the country prior to utilizing mCPR. So, the ROSC-U™ has been tasked with working on some of the most challenging patients, and in several situations where the duration of CPR would not have been possible with manual CPR alone.

As there is no way for us to verify these numbers, the % could be slightly off one way or another. However, our interpretation of the overall numbers, the positive staff feedback, and the anecdotal stories have shown the device to have an overall positive impact at the facility both clinically, and in terms of staff satisfaction.

The Importance of EtCO₂ as a Measurement of Effective CPR

During a recent use of the ROSC-U™ at one of our hospitals, a patient presented to the ED purple from the neck up, possibly a pulmonary embolus or an aortic blow of some type. So the prognosis for survival was not good (and we don't have all the details of PEA or VS and VF/VT which of course are huge indicators of chances for survival % wise). As our customer said - "don't think there was any hope of survival" - and ultimately this patient did not survive.

However, the ETCO₂ was 2 to 3 with manual CPR, and then went up to 7-21 with the ROSC-U™, and jumped to over 30. BPs were 130s over 60s with the ROSC-U™. The physician who was attending was very impressed with the improvements in those readings with ROSC-U™ and could not stop "staring at the monitor".

6) Kentucky:

A customer informed us about how easy it is to roll the patient while they were using the ROSC-U™ if the patient started to vomit if the airway was unprotected. They had experience trying to do that with another mCPR, and it was not easy to clear the airway and they were concerned with aspiration. They mentioned that a paramedic could actually do that by themselves with the ROSC-U™, and they were not easily able to turn the patient and clear the airway without multiple people getting involved with the other device.

7) Kansas:

A 48/F patient weighed approximately 400+ pounds. The Pt was in her home bathroom when she suddenly collapsed and the cardiac arrest was witnessed. The husband moved the Pt to the living room, of their small trailer home, and was attempting to perform CPR. The emergency response time to the home was approximately 20 minutes (typical of most of their rural response coverage territory). It was assessed that the Pt could have been down 5-10 minutes by the time the husband moved her to the living room.

Within 1-2 minutes of arrival, the crew had applied the ROSC-U™. While lifting the Pt to place the XL Torso Restraint, one of the paramedics intubated her as she was in a sitting position. The crews saw this as a huge advantage, and have never been able to accomplish this using any other mCPR device.

The Pt had an initial rhythm of Asystole, with no pressures. They were unable to get any ETCO2 reading due to malfunction of the ET tube. However, they noticed significant improvement in her color after the ROSC-U™ was applied. She was extremely cyanotic in her face upon arrival, and the color only improved after the ROSC-U™.

When they arrived at the hospital, the ER staff was asked by the family to keep the code efforts going until the entire family arrived to say their goodbyes and then to discontinue their efforts. The ROSC-U™ performed CPR on the Pt for 3 HOURS AND 45 MINUTES!!! The ER staff did not push any medications and ran a "BLS" code, but did not stop for 3 hours and 45 minutes. The hospital and EMS crews were amazed and elated they did not have to do manual CPR. The Pt remained on the vent and the ROSC-U™ for the entire time at the hospital.

8) Oklahoma:

Customer's comments after the first 5 initial uses of the ROSC-U™: "The ROSC-U™ are GREAT. We have used them 5 times already. Not really any questions so far. So far everyone who has used them have loved them. I even have a few medics who work at a different service that has the Lucas device, and they say that the ROSC-U™ is a lot better and easier to utilize."

9) Kansas:

A Customer just received two ROSC-U devices with the help of the Firehouse Subs Grant program. With the \$25,000.00 they were able to get two ROSC-U devices with two cases of torso restraints, as well as extra torso restraints for training.

The entire EMS service showed up for training and had nothing but appreciation for the money and the actual devices. The training went very well and many of the medics stated that the device and training were ".... just in time." As they face the holidays, they get short on staff, which makes running cardiac arrest calls even more challenging. The crews were very positive about the fact they had "another set of hands" to do CPR.



Most comments were about the ease of set up on the patient and how "quiet" the device is compared to others they have tried. We had one medic who is full-time at a neighboring service and they discontinued the mechanical CPR device from Zoll because it caused the patient's skin to lacerate from the motion of the band. She is going to recommend the ROSC-U because of how easy it is to apply, the choice of compression depth for making decisions based on clinical information, and most importantly she said was the fact the ROSC-U could accommodate the larger patients. This medic was enthusiastic about the ROSC-U even though they had a very negative experience with a different mechanical CPR device.

The EMS Director was very thankful he could fill a void, and thanks to Firehouse Subs and their grant program, they were able to fill the void quickly and right before the holidays. He was excited to use the ROSC-U as a recruiting tool to get more volunteers.

10) Texas:

An approximately 50-year-old female was in a county holding jail cell that was extremely small. The patient experienced sudden cardiac arrest and was apneic and pulseless upon EMS arrival. Because of the patient location and security that needed to be maintained, the EMS crew was forced to work in an extremely small area. The EMS crew was a three-person crew. While the ROSC-U was being prepared for deployment, one crew member performed manual CPR. Once the Compressor for the ROSC-U was made available, the EMT continued CPR, utilizing the Compressor and maintaining proper placement.

The other two members prepared the ROSC-U and then entered the holding cell to complete the deployment of the ROSC-U, all the while the EMT was giving CPR with the Compressor. Per the crew, even though the placement was difficult due to patient location, the ROSC-U was deployed in less than 20 seconds. The ROSC-U took over for CPR while the crew determined the best way to move the patient. Moving the patient was a challenge because of the small cell and door to the jail cell. The crew explained they had to tilt the patient on her side without a backboard because a backboard would not have made the door turn and could not move as easily and as quickly. The crew was very complimentary of the ROSC-U because they never stopped CPR, moved the patient out of tight quarters without a backboard and did so quickly. They liked the fact they did not add weight to the scenario.

During the call, the patient had urinated and there was a large amount of urine on the patient and the floor. The crew stated, the Torso Restraint was, "... completely soaked, but never moved on the patient and functioned very well. We appreciated not having to be so close to the patient and in that 'mess' to perform CPR." The patient experienced 1-2 very brief episodes of ROSC, but ultimately died in the ED. They were very pleased to have ETCO₂ between 35-40 with a compression depth of 1.5". Although the patient did not survive, the crew was very positive about the entire call.

11) Michigan:

Two EMS crews arrived on scene to a car crash involving quadruple fatalities. The crews had one ROSC-U on the ambulance and one ROSC-U with a first responder. Two patients in the front seats were pronounced dead at the scene. There were two patients in the back seat who were critical. A ROSC-U was deployed onto each patient as they attempted to extricate them from the vehicle. The extrication took an extended time, but they were able to deliver controlled CPR to two patients simultaneously. One patient did experience ROSC for a very short time. However, both patients eventually died at the hospital due to their injuries. The crews stated they felt like they did absolutely everything they could while waiting for extrication and during transport, when in the past they did not have those options of mCPR before their purchase of the ROSC-U.



This service is unique, as they have ten ambulances and ten First Responders. They had received a grant for ten mCPR devices from a competitor. When they evaluated the ROSC-U and approved, they changed their grant to the ROSC-U. For the same amount of grant money approved, they were able to purchase 20 ROSC-U devices, which was double the number of devices from a competitor. The First Responders trained responding police officers and learned how to deploy alone, due to their rural areas. The ROSC-U's have proven to be beneficial for this busy system.