# Fighting SNAFUs with SOPs: How You Can Impose Order upon Chaos in Your Shelter
# Video Transcript

October 2011

*Dr. Michael Moyer:* I want to thank Julie and I want to thank everybody else responsible for this conference. This is an amazing opportunity to be a veterinarian in sheltering today and have all of these resources, all of these knowledge resources gathered together. This is a very exciting time. I was a Shelter executive director in 1992-1993. I was two years out of veterinarian school and resources like this did not exist. Those of you that have been in Sheltering for that amount of time will recognize that things have improved dramatically and I think the knowledge base that we have, the consulting resources that we have and the direction of sheltering is very exciting. So for the veterinary students here today things are looking very strong for being able to get the upper hand on some of these problems where we've been struggling in a lot of communities without the proper tool kit.

This is my son's note from last fall. Came home on a Thursday night from a shift at my practice and this was on the counter top and my wife had left it for me. This was directed anonymously. He didn't know who was making his lunch. I was making his lunch. So it was aimed at me. I was making him sandwiches avoiding peanut butter and jelly because I thought there was a peanut kid in his class. Those of you with children

know there are peanut kids and if you have a peanut kid in your children's class you can't have any peanut related products or bad things happen. So I had been avoiding peanut butter and jelly. This was a business appointment to my son. So I was corrected with this note. So the message for you is I've made a sandwich for you. I've put together a lecture and I think I know what you need to hear but rather than write me a note raise your hand if I'm not giving you what you need. If you want peanut butter and jelly raise your hand or find a crayon, leave a note, we'll pick it up later. I'm hoping by the end of this morning this presentation at least you'll have a pretty good appreciation for the benefits. A general overview hoe much to create standard operating procedures, how to use them and revise them because they're not static documents. They need revision, they need to be cared for and fed as it were. We're going to talk a little bit about errors, adverse events, bad outcomes and some ways to counter that. What I do with students primarily is teach surgery in a very high volume shelter, 32,000 intakes, 22,000 of that cats, about 10,000 dogs, Philadelphia city animal control facility. We're in there 3 days a week with students. We do a lot of surgery. We also do surgery in another facility so process orientation and having a different group of students every week is a challenge. So standard operating procedures and avoiding bad outcomes through attention to detail is something that we try to live in our program. We're going to introduce the concept of situational awareness just to give you a sense of who you should be looking for to be a team leader or a surgical coordinator in the OR or to be

managing complex operational tasks so that there's somebody who's got a sense of the whole process who can be the team leader.

Then believe it or not we're going to take a lesson from formula one. So this is a string of benefits. These should be familiar for those of you who use standard operating procedures in your shelters. By the way how many of you have a book or an on-line or a computer based standard operating procedure manual for the tasks in your shelter? Got some hands going up. Okay. Okay. The alternative to that will be on the next slide. But the benefits to using standard operating procedures are consistency, improved patient care and process based quality assurance. So the entire process has built into it methods for checking quality. Improved efficiency. How many of you wish you could do more surgeries, more vaccines in your shelter? If you have standardized processes it makes you more efficient than having random processes. It facilitates training and cross-training. How many shelters hire people because they're short staffed they hire the first person that can fog a mirror? They assign them to somebody's who already overworked, overburdened, not particularly inclined to train somebody and they say train this person to do X and the training consists of here's X. And that's their on the job training. Turnover is often very high in shelters so training is critical, particularly when animals' lives depend on how well you do really simple tasks. Cleaning a cage is really simple once you know how to clean a cage. Using the right products, the right materials,

how to dilute them, having the right supplies in the right place so you can dilute them properly. These things seem really straight forward but it's all part of the standard operating procedure and the introduction to those materials is made much, much easier by having them and having them handy, having them not in the chief operating officer's desk or sitting up there far away from where the action takes place but having them near the place where the task is executed. SOP's facilitate leadership development. This is perhaps an odd place to put this but if you allow your staff to participate in the development of these documents, you give them sort of incremental ability to show you what they know and they can synthesize and integrate. We do this in our student laboratory. We have a new program where our students run a weekend surgical opportunities laboratory primarily cats but crucial to that laboratory is a surgical team leader and this is a student who is qualified to do spays who is prohibited to do spays for the day. That student has to manage the people on its 12 to 14 students she has to manage for that entire day. So she's qualified to do surgery but she's not allowed to because she has to stay not scrubbed in, she has to be available to do all the troubleshooting a team leader must do in a 60 to 80 cat spay surgical event. So leadership development is perhaps a little off the beaten path but SOP's and participation in their development can help people become leaders. Facilitates continuances improvement, adherence or deviation from your standard operating procedures can be a basis for performance evaluation rather than the alternative which is a somewhat random performance evaluation. And of

course it documents your processes. This is the flip side. Inconsistency, patient neglect, no process for quality, inefficiency, mythic training or on the job training, leadership vacuum, stagnation of process, that is your processes remain static or in fact they decline. There's degradation or deviation from process if it's not documented and maintained. So things start to slide if you don't have standard operating procedures. Random performance reviews. Very creative problem solving. I admit that sometimes creativity is a gift and it's a good thing but sometimes creative problem solving is not good for the animals in your shelter. And I love the term tribal knowledge. Tribal knowledge is the unwritten undocumented way that information is conveyed in many circles but within your shelter it's the sense that we do it this way but I can't point to a document that says we ought to do it this way. But everybody thinks we should so it's a tribal knowledge basis. How to create them? When you can institute them from on high. You can just write them and hand them over but that can produce implementation challenges for years potentially. You have to involve your team and there's actually some literature on the human side that documents this particularly in surgery. Growing body of evidence that links teamwork and surgeon to improved outcomes, high functioning teams achieve significantly reduced rates of adverse events. So the team produces a better outcome and a high functioning team produces the best kind of outcome. That's a disappointment to surgeons. Because surgeons are kind of the center of the universe in an OR in their own minds. You know? Life in their hands kind of thing. But in fact

it's the team that affects the outcome more than the surgical technique or the surgeon in many cases. This is last year's pumpkin. I was proud of that but... All team members must work with the draft versions of the standard operating procedures. So everybody whose life is touched by that task, everybody who has to implement that task or supervise that task has to be part of the development of the standard operating procedure or there won't be buy in. They won't do it. They'll resist, they'll complain. They might complain anyway but if they're not part of the development you may have very difficult time with adherence to the protocol. We start with a goal. And there are high level goals, there are process goals and there might be participant goals in the case of a teaching protocol. We have goals for our students. And this is an example from a surgical opportunity program I mentioned earlier and so the highest level goal is that for the animals. So that animals are provided high quality surgical and medical procedures. That can be delivered at high volume due to the commitment of a relatively large number of students. For the organization this is the lab rating shelter on the weekends, that helps fulfill their mission and again a student goal at the bottom. After you establish the goals you need to sketch out the work flow. And work flow involves a lot of concepts. I've been to a lot of shelters and I've been surprised when I go into a shelter, particularly a relatively high volume shelter and I'll ask to see where intake occurs. And a lot of times I'm -- the answer is well it can happen here or it can happen over here or it happens when ACO brings them in, kind of happens in the garage bay and there's no

dedicated space and no sense of consistent work flow for something that's very important in a shelter. Intake processing is perhaps one of the most important steps for life saving in sheltering because that's the time that they get these important vaccinations and they get at least a cursory assessment of their physical status on the way in. And if the location and the process isn't established then it's probably not happening with any consistency and that's an issue. So the work flow when you're developing a standard operating procedure the work flow ought to incorporate and include all of those features. Provides an overview of the goals and process and it also introduces the team members that are executing the protocol. Again from our surgical opportunities program this is an overview of work flow. So there's a goal within the work flow and that is that no surgeon is ever waiting for a cat. That is there's always a cat ready to go as soon as the surgeon has finished the last cat. Animals are never unattended. And also the anesthetic time is minimized for these patients. So those are goals that are built into the work flow description and you can see there are some other sort of travel related cats progress from station to station, et cetera. This is part of the orientation materials for this same surgical laboratory and so the students during their orientation are introduced to these various team positions. The physical exam induction team, prep team, castration station, spay set up team, spay, recovery team and then there's a debrief at the end of the surgical session. So at the beginning of the day there's an orientation or reorientation because in fact all of these students have gone through the orientation

on-line before they come out for the day but it's reviewed very briefly the morning off. All of the students introduce themselves even though they typical know each other reasonably well but they're reoriented and their roles are clarified or identified then they go through the rest of the work flow description.

Then we get down to the task level descriptions and tasks include location, again for intake processing that's an important part. If you're asking somebody to prepare delusions of cleaning product that happens in a particular location with particular kinds of equipment as well. And I'm adding to this or introducing the idea of check lists. We'll expand on that in just a little bit. Again, this is an example of the task list for exam and induction stations. So physical exam, et cetera. All of these things have to happen and they happen in sequence and they happen in a particular location. This is the surgical facility that was developed to host our students. This particular organization Philadelphia animal welfare society used to hold the animal control contract. They are released of the contract responsibilities and they re-purposed themselves, became a rescue partner to animal control, developed a surgical and wellness facility. They built it 2 miles from the veterinary school so that our students would have convenient access to it and they developed as a very flexible multibay surgery with beautiful tall windows. We have lots of natural daylight. Unfortunately the windows overlook the post office's parking lot and the post office parking lot patrons are among the worst parkers in

the world. So my car was hit about 2 weeks ago despite being parked on a small berm. I thought 60 feet away from the nearest car would be pretty safe but somebody backed into me about 2 weeks ago. I usually get to see somebody get backed into at least twice a day from those windows. This is an example of a cleaning exam room cleaning protocol from my practice. My office manager and staff have developed about 50 or 60 standard operating procedures or protocols for various tasks within my practice. I wish I could develop 50 or 60 protocols in my lifetime but my office manager is very good at this and this is a detailed description of all the steps. I don't expect you to be able to read it but this is our current exam room cleaning protocol along with the concentrations and also the renewal or refresh dates for the product. Many of these products have a finite shelf life or life in the bottle. This is a peroxide based accelerated hydrogen peroxide based product and it has to be refreshed every week in your exam room. So this goes through that in some detail. Finally, I'm sorry, after tasks and detail the various rolls of the team members. So on-site surgical coordinator or team leader in the case of a surgical program. There is a castration captain. The title for that role was a variety of titles but they settled on castration captain. Castration captain actually has a sash that says castration condition. Serious about that. They have a sash that they wear. And that's to identify them in a hurry. And that was inspired by Julie's program cat nip, the surgical coordinator on-site for cat nip wears an orange safety vest because in a room full of 100 plus volunteers or 80 plus volunteers with a lot of chaos it's nice to be

able to find that person now when you need them now. So the team captain or surgical coordinator and the castration captain are color coded so there's easy to find in the OR. It's not quite as big an operation as cat nip mind you and it's a smaller space but still when you're in a hurry you want to be able to find these people. We have spay certified students, volunteer positions for the day. Our spay participants and castration certified participants as well. The team leader identification, documentation, SOP's have to be documented or they aren't real. They have to be documented and the documents have to be in a place that is accessible when people need to review them but it also has to be kept by somebody who will maintain them so that not everybody in the organization can modify them. You don't want people altering them willy-nilly. They will need to be revised but there should be a process and there should be a person or maybe a couple of people charged with revising them. This is an example of a poster that's by one of the work stations. So this goes through in brief the various steps for the feral cat prep station including a depiction of a tipped ear. The positive results of the snap kits and all this is print odd a nice poster that's right at the work station.

Review standard operating procedures for the process content, that is the steps, make sure the steps are still the ones that you're doing and if there's a problem, if people are complaining or people have suggestions for revising the process it can be revised. You can change it. You don't

have to keep the process exactly the same just because it started that way. Accuracy, clarity, simplicity. Sometimes there are ways to simplify the process and make it easier for people. And also if the process is necessary, that's a fundamental question. Do we really have to do this? Or does it have to happen here? That is maybe it doesn't have to happen at this particular time. Maybe it can happen at some other point in time and that's something your staff can negotiate with you. They may have a suggestion for where a task would be better done at some other place and if it makes sense or if it's equivalent in the medical care from the medical care stand points that's something that can happen. For example in this particular laboratory they were doing vaccinations at the prep station and prep station has a challenge keeping up with the surgical paper work so they suggested the vaccines move to recovery where they've got a little bit more time. There's a little bit more time on the recovery station, a little less paper work excitement. So they moved vaccinations to the recovery side for this laboratory and that was negotiated. Your team leader, your chief operating officer, your veterinarian should observe for choke points in whatever that task is. In the case of a surgical clinic what are the choke points? What are the points where everything jams up and you have people standing around waiting for surgery? In a high volume cat clinic retrovirus screening is a big choke point and particularly when people ask for a retrovirus test but they don't give you the what if it's positive options. Which seems to me you're either going to get a positive or a negative. It's predictable. It's going to be positive or negative and if it's positive

that seems to be something the trapper or the owner or the shelter ought to have given some thought to and given you some direction on the front end of ordering the test. And it happens all the time that you suddenly get this result and it's a complete surprise. It's a positive. And it just shuts everything down while you're trying to chase down a human being to get some 1 direction. That's predictable. That choke point is predictable, a positive test result is inevitable at some point in your day if you're doing a high volume clinic and you should have some direction when they're signing the cat in as to what to do with that result. So that choke point is predictable and somewhat solvable and yet if you don't attend to that on the front end of admissions you can end up shutting down your surgery or at least jamming up your surgery for 20 or 30 minutes and you may not even resolve it. You may call the cell phone, rolled over to voice mail, person is out of cell contact and they can't get back to you in time then you don't know what to do with the cat.

Not sure if this made it into your handout but this is a little bit of a twist. Anesthetic protocol alert. How many of you want a safer anesthetic protocol or are interested in that? Okay. Hoping I have somebody's attention in here. In this particular example perioperative death rate was 1 and a half percent. Complication rate, complication is defined as these post op infection, pneumonia, unplanned return to the OR, unplanned return to the OR or death. 11 percent. New protocol was introduced dropping the cumulative death rate to 8 percent, .8 percent, 46 percent

reduction, complication rate dropped to 7 percent or 36 percent reduction. Is it a new injectable drug cocktail, fancy new machine that goes ping, a more secure way of ligating the ovarian pedical in a fat dog spay? I was very excited to see the lecture content for North American Veterinary conference has Mark Bollinger from Tennessee doing a big fat dog spay lecture. So that's worth a look.

No. This new protocol is perhaps the least sexy thing I can show on a power point slide. Check lists. That's right. Check lists. Introduction of a check list system in 6 globally distributed human surgical practices decreased perioperative death rate 46 percent, decreased complication rates 36 percent. Check lists. Atul Gawande is an author surgeon, has written a number of books, complications, the check list manifesto. After this he was assigned to the world health organization's global study of implementation of check lists. So most human hospitals right now are beginning to or are well on their way to implementing a check list system for surgical practice. And these are the check list that is are recommended by world health organization as kind of a template or blueprint and they have various hard stops built into them. That is the patient cannot proceed until the check list is addressed and it's a physical check list. People in the OR have to complete it and have to audibly acknowledge that they have completed the check list or the patient does not move. The patient doesn't move out of pre-op, the patient doesn't have an incision started, the patient doesn't leave the OR until these things

are addressed. Now this is the concept. This is something that's rolling out right now. I met with the folks down the street at the hospital of the University of Pennsylvania the human hospital which has 40OR's and they're fairly busy practice and they're well into, well into this section. They don't have the sign out phase completed yet. So they're not fully integrated into this blueprint and I'll tell you our program, our surgical program is not fully integrated into this. This is something to consider with various tasks that lend themselves to a check list system. This is developed from the avionics industry, airline industry where very complicated processes like flying an airplane are incredibly safe and they're incredibly safe because there's a standardized way of getting started, there's a standardized way of problem solving and then there's a mechanism for learning from events that happened. So there's a debrief or a post failure analysis that allows them to develop safer check lists going forward. This is some of the data from that study. Again these were globally distributed hospitals. Each of the hospitals saw improvement though not every hospital saw improvement in every category. That is some hospitals experienced reductions in complications but did not experience improvements in perioperative death rate but cumulatively and individually each hospital saw improvement with the implementation of the check list. There were no other substantial differences in their anesthetic protocols or their caseloads or the case demographics or signalment so everything else was relatively similar and this happened in a fairly short study period. So this happened within

about a 4 month period of time so it was fairly compressed in time. Substantial improvement in outcome with implementation of the check list system. This is an example of the check list that our students follow when we're in animal control as we're getting our patients ready for and as we're getting our patients processed through a surgical. Again these are places where we have a hard stop built in. So with dogs exam patient confirm the presence of testicles. That seems pretty straight forward but how many of you have sedated a dog with nothing in the scrotum? That's unfortunate because that dog could have spared, you know, fairly expensive dose of anesthetic agent potentially and certainly the dog did not need to have a 4 hour nap in order to have a microchip implanted if he didn't have a microchip already. And again this is a detailed check list that our students follow as we're moving through the OR. This is a list of all the surgical tasks that have to take place from the beginning of the day to the end of the day with a patient. Why is surgery in red? I'm sorry? Somebody says it's the main goal. I can't tell you the number of students; they want to get faster in surgery. They want to get more efficient. And they imagine that if they can only get faster, you know, they can do more surgeries a day but I'll tell you that all of these other things around surgery eat up more time than most -- now students are somewhat slow. Somewhat. But if you can get standardized processes around all of these other things and if you can become more efficient at those other things and if you can keep your surgeon busy all the time a surgeon who can do a 20 minute dog spay can do an awful lot of surgery if every 20 minutes they're

starting another dog. But if there's 10 or 15 minutes between every patient no matter how fast they are they're not going to get through a lot of surgeries. So I use this slide to emphasize that there's a lot of other stuff that's happening other than the surgical procedure. And all of that other stuff has process around it and needs to be standardized. This is a form, this is actually quite a nice form that our Philadelphia animal welfare society uses as the work order and surgical report for every one of their patients. When we're in their facility we work off of this sheet and the sheet has all of the menu options that are available for that particular surgical center. So it has the vaccine list, it has the tests that are available, heart worm or retrovirus and we can walk through the work pretty easily because it's in a physical or visual format and we can just check off the boxes and fill in the planks as we work through the case. That's just a nice useful form to follow the patient around the OR. By the way my opening slide was a picture of Operation Cat Nip from January of 2010. January's pretty cold in Philadelphia so I thought it's 24 degrees in Philadelphia I'll come down and visit Julie and Sinda and see Operation Cat Nip for a Sunday. So we scheduled this and I came down.
24 degrees in Philadelphia was 22 degrees in Gainesville. Thank you. And it was a slow day. They did about 175 cats on a slow day. Julie normally it's 250 is kind of their, you know, we're feeling good about the day. 250 cats and you're usually closing your last abdomen at? Quarter till -- 1:00 or 2:00 they're closing their last abdomen, 250 cats roughly half female. So that's organization. That's some standardized operating

procedures. This is an example of an exam station list. Just a slide or two about surgical standards in veterinary medicine. This is a screen shot from the American animal hospital association organization, very near and dear to me. Accredited practices adhered to roughly 900 standards and there are some specific standards for various parts and practice. There's a lot of standards around surgery, medical records and so forth. This is just an example of some of the standards around surgical practice. When you're developing standard operating procedures you have to keep in mind that there is an emerging sense of standard of care. There are spay and high volume spay and neuter guidelines that have been published for a few years so there are standards that are resources that you can go to to see if what you're doing is in conformity to those standards. It used to be that there were local or prevailing standards of care in veterinary medicine so if you were far from the big city and you were in a somewhat rural area it used to be considered you were held to a different standard of care by veterinary boards, boards of veterinary medical examiners because you didn't have access to or ability to have the latest and greatest knowledge or gadgets. I will tell you from talking to people who sit on boards, veterinarians and representatives of the public that that sense of local standard is changing and it's now one standard because knowledge is now easily available, conferences like this, other veterinary medical conferences can easily distribute information about the latest and greatest ways to do things. The internet has made access. Veterinarians have access to information that used to take much longer time to distribute. So

the sense today at boards of veterinary medical examiners is that you should know this stuff. You should know about pain meds and you should know about appropriate surgical protocols because it's easily available now. So there is this sense that there are emerging standards, those standards are going up, not down. It is no longer the shelter held to a different standard than a practice. You do need to keep that in mind as you're developing protocols because your protocols may come under some scrutiny either from a volunteer who doesn't like what you're doing who may take a photocopy or take a screen shot of your protocols and share that with other people. So as you're developing, not that that's the only thing to consider when you're creating protocols but just keep that in mind. Your protocols need to be sound medically. We're hoping also that people are paying attention to the ASV's guidelines for shelters. Pay attention to what your state boards--you know, those of you who are in contact with people who had experience with the state boards or if you have a publication from your state board, if you're a licensed veterinarian within your state they probably send out information to you on a quarterly basis or a yearly basis. Talk a little about errors, adverse events and bad outcomes. How good process and situational awareness can improve quality. Medical misadventures happen because of the following reasons. And this is based on error analysis in human literature. There are entire journals in human medicine devoted to quality and quality assurance. It's a very strong area of active study. Obviously medical misadventures are a huge costly tragic condition or circumstance so there's a lot of effort on

the human side to try to mitigate those and prevent those. We look at systems factors, break down and delivery function, productivity pressures. Who is under pressure for productivity at their shelter? Discontinuous care or hand offs. That is patient care starts in one section or one function and then transfers to another function. And that can be from station to station. That can be from category to category or status to status. So it moves from adoption to some other part of the shelter. There's an opportunity for loss of information or misinformation at each one of those hand offs. So hand offs are a weak link. Weekly standardized processes or policies, or lack of processes and policies, poor communication systems and then lack of patient data. You just didn't know the patient had this or that. Sometimes that's because an owner doesn't tell you, sometimes it's because it wasn't asked and sometimes it's because it was lost. You had it then you lost it, it got separated from the patient. Those are all systems. Everything in blue is a systems or process problem. That is with better processes, with better systems; with better protocols you can mitigate or avoid errors in that category. On the bottom in black are individual operator errors that can happen. Failed situational awareness, tunnel vision. You just didn't know it was happening. You were so focused on the abdomen you didn't notice your patient stopped breathing. Those kinds of errors. Following faulty rules of thumb. That is if it comes in looking like this I do this. Well sometimes it comes in looking like that for a different reason than the treatment you're used to using. So sometimes we fall to rules of thumb and sometimes rules of thumb don't

work for us. Biases, you may be inclined to treat things a certain way because it's worked for you. But it may not work in every case. Mental states or affect. If you're in a terrible mood, if you're incredibly distracted, if you're angry, the quality of your work, the quality of your thinking is degraded. So that's an individual type of error that can occur. And then technical factors. Surgical accidents, surgical misadventures, those things can happen. They do happen. But they probably have a lot less than these other categories when it comes to bad outcome contribution. Situational awareness. How many of you have heard of this term? Situational awareness. Situational awareness is the ability to know in a complex environment to be able to kind of high level view of what's happening overall. It's what fighter pilots are tested for to fly very complicated equipment with a lot of distracting data streams coming out. They've got a lot of information coming at them. They're in a very expensive technologically advanced aircraft, they're 23 years old flying a 35 million-dollar airplane. They screen and test for very high levels of situational awareness so they can keep track of all the stuff that's happening outside the plane and inside the cockpit. And there are various levels that have been described. Again this is a field of research for a variety of reasons but with respect to surgery it's because situational awareness can prevent or can lead to errors. That is lack of situational awareness. Pit crew lessons. How many of you are motor sports fans in the room? Any motor sports fans? Okay. So formula 1 pit crew we're in the south so that's a NASCAR pit crew. Now from this picture there's

a lot of people. They do a pit stop in something under 5 seconds typically, 4 tires, fuel. They can do some other things, make some adjustments in under 5 seconds in many cases. Takes a lot of people to do it. The most important person in this is the fellow called the lollipop man. He's the fellow here. He's got a pole and on the pole is a go or stop. He flips it around and the only thing the driver does is watch that stop sign. And when the stop sign is flipped around he knows he can gun it, you can pull out. That's the only thing the driver has to do when he's in the pit stop and the lollipop man controls, he's the team leader for that entire event. Doesn't seem like a very hard job does it? Hold the stick and flip it at the right time. But he has to have a very high level of situational awareness and he has to know exactly every task that every team member can do because he has the life of the driver, the life of the crew, the life of the driver and crew in front of him in his hands. He has to have the highest level of situational awareness when they're in the pits. And in motor sports races are won and lost in the pits. Cars are going so fast, first and second place are separated by fractions of a second in many cases and those fractions of a second are earned or lost during pit stops. I didn't invent this analogy. This is from the human literature. This is -- they have looked at pit crews and they've had pit crews come into operating rooms, they've had them come into surgical theaters and they've had them take a look at process and to reengineer some of their processes. NASCAR visited a human orthopedic surgeon who was troubled by his inability to do more than about 4 or 5 total hip replacements in his surge.

So they looked at his surgical practices from start to finish. Now they weren't there to recommend technique. They were there to look at the process and they reoriented his process and made him have a consistent team and they implemented more structure, the team was sharply defined into divided roles, they tightened up his processes, not his techniques, they tightened up his processes. They became more organized with orientation, pre-event briefing, they had an equivalent of a lollipop man. They had a team leader. They did after the day of surgery they did a debrief. They went through what went well and what didn't go well and they learned from it. So they did data analysis and they trained and cross trained all the members of the team so they understood each other's roles and responsibilities so they were a more effective high functioning team. And when they did that they were able to take him from 5 total hips a day to about 12 per day and if you're under productivity pressure that's pretty good. And so that was a good outcome and that was from NASCAR and from a pit crew looking at process. Standard operating procedures fundamentally improve your team's ability to organize, train, to function and to lead. Check lists, more than any new drug -- I'm sorry for the anesthesia people in the room -- more than any new surgical trick, sorry for the surgeons in the room, will decrease your perioperative death and complication rate. SOP's will clarify and reinforce goals. This is from one of our first years in the shelter. This is one of my shelter medicine elective groups. This kitten, little black kitten covered in roofing tar was brought in by a roofer. They had been doing a roof in the summer and

this kitten had somehow gotten up on the roof and drifted or wondered through the tar and came into animal control and it happened that we were in the building because the shelter would not have had 4 staffers to sit around with warmed Mazola oil and spend 3 hours taking roofing tar off this kitten. This student then took the kitten home and of course found it adoptive home for it so it was a good outcome for the cat and I think a good outcome for our students as well. SOP's will improve your productivity. Therefore your efficiency. Adherence or deviation will help with staff accountability and performance reviews. So you'll have a standard by which employee performance can be graded. Are they doing it the way they're supposed to? Have they been trained to it and are they doing it the way they're supposed to? Yes or no? It's much easier to tell if there's a standard against which they can be judged. Check lists, if you implement them it will reduce adverse events, absolutely. It will reduce adverse events. And so in short standard operating procedures and checklists save kittens. [Applause]