

4 steps for CPR

Step 1. Dog position and hand placement. Dogs both large and small should be placed on their side rather than their back. It doesn't matter if they are put on their left side or their right. The only exception to this might be a barrel-chested dog like an English bulldog. The researchers believe blood might be pumped through the heart and lungs at least as well with a bulldog lying on its back as on its side.

While the position of the dog generally does not differ whether it is a Chihuahua or a Great Dane, the position of the person's hands on the dog's chest does. For medium, large, and giant breed dogs (essentially meaning dogs who weigh more than 20 pounds), the best place is over the widest portion of the chest, one hand on top of the other.

The exception here is keel-chested (narrow, deep-chested) dogs such as greyhounds and also barrel-chested breeds. In dogs with either of those body conformations, positioning the hands directly over the heart is a reasonable way to go. It all has to do with how to achieve the best pressure with the compressions to move blood through the cardiopulmonary (heart-lung) system.

Small dogs (as well as cats) need a different hand placement still. For them, one hand — wide enough to pretty much wrap around the animal's chest — will work, with the person's fingers placed around the sternum (breastbone) at the level of the heart. Compressions done from this position are called circumferential compressions because they involve the hand going around much of the dog's circumference.

The researchers note that if the person doing the compressions becomes fatigued or the dog's chest doesn't bounce back easily after being compressed because of, say, obesity or old age, the same placement of hands on the chest can be used on small dogs as on medium and larger dogs.

Step 2. The compressions. Getting the compressions right is probably the trickiest part of CPR. The evidence is strong that the odds of a dog's coming to and surviving 24 hours later are stronger if the compression rate is 100 to 120 pushes a minute. There is even some evidence, the RECOVER scientists say, that higher compression rates of up to 150 pushes a minute may be even more advantageous. But it might be very hard to do good, functional chest compressions at 120 compressions a minute. A hundred well-performed compressions a minute is probably more in the ballpark of what people can achieve, and is likely to work if CPR is going to work at all. How fast is 100 compressions a minute? One anecdotal recommendation is to sing "Stayin' Alive" and go with the rhythm of the song.

The compressions themselves should be deep, with the hands (or hand) pressing the chest down to a depth that equals one third to one half the width of the thorax (essentially the chest cavity). Of course, you're not going to have a tape measure with you, but this means you really have to push down hard, and you have to do it in rapid succession to reach a rate of 100 beats a minute. To add to the time constraints, the chest should come fully back up between chest compressions; you should not push down again until there has been what scientists call "full elastic recoil." If you do, you're not perfusing blood through the circulatory system as best as possible, so the dog has less chance of coming to.

Another way of putting all this: performing compressions is not for the faint of strength or coordination.

Step 3. Ventilation (Mouth-to-Snout). The proof that mouth-to-snout ventilation helps dogs regain consciousness during CPR is actually scant to nil. That doesn't mean you shouldn't try it. It's just that what research has shown so far is that good compressions offer the lion's share of promise.

The right way to give breaths is for the rescuer to hold the dog's mouth tightly closed and place his or her mouth over the animal's nostrils to make a seal with the snout, then blow into the nostrils.

What's the right sequence for compressions and mouth-to-snout? The evidence to date suggests starting with 30 compressions followed by two breaths. That means that if you're performing chest compressions at a rate of 100 per minute, you should do them for just under 20 seconds (20 seconds — a third of a minute — would come to 33 compressions), then briefly stop to deliver the two breaths. As little time as possible should be lost between breaths and the next set of compressions; it's okay to have one person doing the compressions while another delivers the breaths.

After two minutes of compressing and then breathing, someone else should take over performing the compressions. As we have noted, compressions are very fatiguing, and the quality of the compressions is likely to become compromised after that time.