

April 25, 2024

## Veterinary CPR Training

DoveLewis Technician Trainer

Jessica Waters, CVT



## Virtual Attendee FAQ's

#### Do I need to create my own Zoom account to attend? No. You can access the webinar through the link in your confirmation email. Click the link that says, "Click Here to Join" at the time of the lecture.

Is there someone to help if I have trouble accessing the lecture?

Yes. Please reach us at contact@dovelewis.org if you're experiencing difficulties joining the meeting. During the lecture, you can use the "Raise Hand" function and someone will be able to help you.

Is attendance tracked?

Yes. As you register for the Zoom meeting, you will be asked to enter your information. Attendance is tracked for RACE records.

Is this lecture RACE approved?

Yes. This lecture is RACE-Approved for one Interactive-Distance CE credit. You will receive an emailed certificate of attendance within one business day after the event.

Will I be able to ask questions?

Yes. If you have questions during the lecture, please use the Q&A function to submit your question. We will save questions for the end of the lecture.

Will I be able to talk? No. All attendees will be in listen-only mode. If you have a question or need help, the Q&A or Raise Hand function.

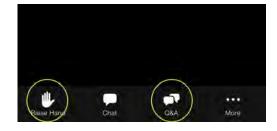
Will the presenter or other attendees be able to see me? No. All attendees will only have the capability to listen to the presenter.

How will I get my certificate?

You must register by using the Zoom link to prove attendance. You will receive an emailed certificate of attendance within one business day after the event.

Can I record the lecture? No. The lecture will only be recorded by DoveLewis, and will likely be available on atdove.org at a later date.

For more support, please email contact@dovelewis.org







## **Veterinary CPR Training**

Jessica Waters, CVT

#### Outline

- RECOVER Initiative
- Preparedness and Prevention
- Basic life support

- Advanced life support
- Monitoring
- Post cardiac arrest care

#### What does RECOVER mean anyway?

- REassessment Campaign On VEterinary Resuscitation
- Based on recent work by ILCOR (international liasion commmittee on resuscitation)
- 101 clinical questions were examined covering 5 domains
  - Preparedness and Prevention
  - Basic life support
  - Advanced life support
  - Monitoring
  - Post cardiac arrest care

#### **Preparedness and Prevention**

- Location, storage and content of resuscitation equipment should be standarized and regularly audited (I-A)
- Checklists, algorithm charts and dosing charts improve compliance (I-B)
- CPR training every 6 months is recommended to reduce decay of skills (I-A)
- Each hospital should evaluate their own treatment area to determine where the best place is to set up a crash station with monitoring equipment and supplies

#### **Team Approach**

- Crash situations draw a lot of attention. It is best to limit the number of people involved with CPR
- Team approach to CPR, not more than 3-4 people need to be involved
  - Team leader DVM or CVT
  - Someone to intubate and ventilate
  - Someone to do manual compressions

- Communication
  - Scribe to write down events of CPR
  - Only team leader should give direction on interventions drug doses, when to defibrillate etc.
  - Instructions should be repeated back to the team leader to ensure accuracy
- Debriefing is a time to recognize gaps in efficiency in order to perform better next time, not a time for blame or finger pointing

#### **Basic Life Support**

- Recognition of arrest
- Chest compressions
- Airway management

#### **Recognition of Arrest**

- Should take no more than 10-15 sec
- Brief evaluation of mental status and breathing effort
- Brief auscultation and pulse evaluation if patient has spontaneous breaths
- Ok to start compression based on little or no airflow REGARDLESS of whether patient has spontaneous heart beat
  - Best to start compressions and determine it is *not* needed as opposed to starting compressions too late

#### **Chest Compressions**

- Size and chest conformation will determine hand positioning, cardiac pump technique versus thoracic pump technique
- Goal 100-120 compressions/min
- 50% duty cycle
- Compress 1/3 of the diameter of the chest



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#### **Basic Life Support - Ventilation**

- 1 breath / 6 sec about 10 breaths/min regardless of patient size
- 1 sec inspiratory time
- Up to 40 cm H20 is okay for inspiratory pressure
- Pros and cons for both Ambu Bag and anesthesia machine
  - Use whichever oxygen delivery system you are most familiar with

#### **Advanced Life Support**

- Includes anything beyond BLS until the point of ROSC return of spontaneous circulation
- Vasopressors, positive inotropes, correction of acid/base disturbance, volume administration and defibrillation
- Witnessed arrest (in hospital, during anesthesia etc), if prompt BLS and ALS is performed, *initial* ROSC rate may be up to 50% in dog and cats
- Non witnessed arrest (out of hospital arrest or presents already deceased) ROSC much lower than 50%

#### **Drug Therapy**

- Epinephrine: Low dose 0.01 mg/kg IV every other BLS cycle (ie every 4-5 minutes)
- Atropine: 0.04 mg/kg IV once OR every other BLS cycle, independent of epinephrine dosing
- Other drugs used highly dependent on patient needs
  - Dextrose, calcium gluconate, steroids, antiarrhythmic drug can be given in specific circumstances but should not be given to every arrested patient

#### FOLLOW the CPR Algorithm

- **BLS** initiation of chest compressions, intubate and ventilate
- **ALS** obtain vascular access, initiate monitoring (EKG, ETCO<sub>2</sub>), administer reversals, other drug therapy
- If NO EKG information obtained at time of arrest wait 1 BLS cycle (2 min) and evaluate EKG prior to making next ALS decision
- If EKG information is available at the time of arrest, continue with ALS algorithm

#### **EKG Diagnosis and Action Plan**

- Asystole or PEA
  - Low dose epinephrine every other BLS cycle
  - Atropine every *other* BLS cycle (not dependent on timing of epi)
  - V-Fib or Pulseless V-Tach
    - Do not give Epi or Atropine
    - Immediate defibrillation if available
    - Precordial thump

#### ALS - Defibrillation

- Rhythms responsive to defibrillation
  - Ventricular Fibrillation (VF)
  - Pulseless Ventricular Tachycardia (PVT)
  - Atrial Fibrillation

#### Post Arrest Care - Now What?!

- Post arrest care is important is key in improving survival outcomes
- We have to battle with consequences of post arrest systemic issues
  - Multiorgan failure
  - Cardiogenic shock (myocardial stunning)
  - Pre-existing disease
  - Cerebral hypoxia

#### **Improve Outcome in CPR**

- Be prepared for any crash situation
- Routine training so there is no delay in starting CPR
- Brief assessment of ABCs to reduce delay in CPR
- Do as much as possible to reduce interruption in chest compressions
- Give CPR enough time
  - At least 4-5 BLS cycles about 8 to 10 minutes

#### atDove Videos for Reference (text is linked)

#### **Open Chest CPR**

**Open Chest CPR: Advanced Methods** 

CPR Demonstration: Chest Compressions and Ventilation

CPR Demonstration: Defibrillator Review

Hand Positioning in CPR

## Technician Training Kits

Organize onboarding or supplement professional development with workbooks containing skills checklists, a comprehensive exam, and on-the-floor tools.

## What's Inside?

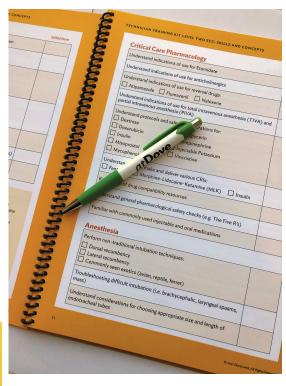
- Available in General Practice or Emergency & Critical Care
- 10+ pages of skill checklists
- Technician tips for equipment and procedures
- Comprehension exams
- Manager support and feedback guides
- On-the-floor resources for quick reference and study
- Certificates of completion

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