Outline: CPR Presentation – VEG St. Peters, MO

I. Introduction

- Title: *CPR Basics from the ER* (Based on RECOVER Guidelines)
- Presenters:
    - Gabby Jones, RVT – Nursing Manager, VEG St. Peters
    - Dr. Katie Groom – Medical Director
    - Dr. Hannah Fore – Lead Doctor
    - Dr. Morgan Stoddard – Lead Doctor

II. Importance of CPR Training

- Low success rate in animals (2–10% ROSC vs. 20–25% in humans)
- Anesthetic arrests have higher survival
- Training builds confidence and muscle memory
- Every second counts; delays decrease success
- All veterinary professionals should be trained

III. CPR Equipment & Crash Cart

A. Essentials for CPR

- Oxygen source (breathing circuit or Ambu bag)
- ECG, IV access, Capnograph
- Emergency drugs, RECOVER Algorithm chart

- Stethoscope, ET tubes, laryngoscope
- Step stool, flushes, 4+ team members
- Psychological safety

B. VEG Crash Cart Layout

1. **Top of Cart:** Defibrillator, suction, pumps, fluids, SPO2, oxygen muzzles
2. **Drawer 1 – Airway:** ET tubes, ties, capnograph, laryngoscope
3. **Drawer 2 – Medications:** Epi, atropine, naloxone, flumazenil, antisedan, etc.
4. **Drawer 3 – IV/O2:** IVC supplies, O2 masks, readers
5. **Drawer 4 – Premade Kits:** IO, centesis, surgical airway, etc.
6. **Drawer 5 – Misc:** Ambu bags, saline, suction, paddles

IV. Recognizing the Need for CPR

- Types of arrest: Respiratory, Cardiac, Cardiopulmonary
- Assessment steps: Shake & shout, airway, breathing, circulation (<15 sec)
- If unsure → start compressions
    - Low risk of harm, high benefit if needed

V. CPR Algorithm Overview

A. Basic Life Support (BLS)

- 2 minutes compressions + ventilation q6seconds

B. Advanced Life Support (ALS)

- ECG, EtCO2, IV access, reversals

C. Rhythm Check

- **Asystole/PEA:** Atropine once + low-dose epi every other cycle
- **VFib/Pulseless VTach:** Shock, resume compressions immediately

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VI. Common Situations & Reversals

- Most codes occur during anesthesia
- Know premeds and reversals:
    - **Atipamezole (Antisedan)** – Dexdomitor reversal
    - **Naloxone** – Opioids
    - **Flumazenil** – Benzodiazepines

VII. CPR Procedure: CAB Approach

C = Circulation / Compressions

- Rate: 100–120 bpm (2-min cycles)
- Form: Locked elbows, body over hands, full recoil
- Depth: ½–⅓ chest width (¼ in dorsal)
- Position: Lateral or dorsal depending on chest type
- Techniques:
    - Cardiac pump – small/keel-chested
    - Thoracic pump – barrel-chested

- Songs for rhythm: *Stayin' Alive, Another One Bites the Dust, Eye of the Tiger*

A = Airway

- Methods: Intubation (best), face mask, mouth-to-snout
- Do not delay compressions for intubation
- Use Ambu bag (less dead space) vs. anesthesia machine cautiously

B = Breathing

- Rate: 10 bpm (every 6 seconds)
- Pressure: 30–40 cm H_2O
- $EtCO_2$:
    - ≥18 mmHg = effective compressions
    - Sudden rise >10 mmHg = possible ROSC
    - <10 mmHg = poor perfusion

VIII. CPR Roles & Teamwork

- **4 Key Roles:**
    1. Code Leader
    2. Compressor
    3. Airway Manager
    4. Recorder
- Rotate compressor/airway every 2 minutes
- Use *closed-loop communication* ("Repeating back")

IX. Drug Administration

- Nurses may initiate per RECOVER chart if DVM unavailable
- **Epinephrine:** 0.01 mg/kg IV q3–5 min (low dose)
- **Atropine:** 0.04 mg/kg IV (once early)
- **Lidocaine:** 2 mg/kg IV for shockable rhythms
- **Flush:** 10–20 mL dogs, 5 mL cats
- Routes: IV preferred → IO → Intratracheal (if no access)

X. Rhythm Recognition

- **Normal sinus rhythm** – coordinated activity
- **Asystole** – flatline
- **PEA** – electrical but no mechanical activity
- **V-Fib / Pulseless V-Tach** – shockable rhythms

XI. Code Duration & Post-Code Care

- Reassess every 2 min
- 15 min = prolonged; consider prognosis & owner wishes
- After ROSC:
    - Notify owner, monitor closely, expect re-arrest
    - Debrief immediately

- If unsuccessful:
    - Acknowledge emotions, reflect as a team

XII. Debriefing

- Supportive, not punitive
- Discuss:
    - Communication
    - Role clarity
    - Opportunities for improvement

XIII. Additional Resources

- RECOVER Initiative website
- RECOVER App
