**Slide 30 Anatomy**

There are 12 body systems that depend on each other to maintain life for proper functioning, balance and healing. Each one has a unique and important job to do. If any of the systems are not working properly it can cause health problems. For the purpose of this training we will be focusing on the body systems that relate to rendering CPR, first aid and care. Hard Frame (Skeletal) / Soft Tissue (all others).

1. Skeletal: includes bones, teeth and cartilage.
2. Muscular: includes muscles, tendons, ligaments and other connective tissues.
3. Respiratory: includes nose, mouth, airway and lungs for breathing; taking oxygen from the air and expelling carbon dioxide.
4. Circulatory: a network of arteries, veins and capillaries powered by the heart moving oxygen-rich blood cells throughout the body.
5. Digestive: In one end…out the other! Breaks down the food to fuel the body.
6. Nervous system: enables the body to send, receive, and process sensory information.
7. Urinary: system for the elimination of ammonia which is a by-product of the digestive process.
8. Reproductive: Come on! You know the birds and bees story! Enables animals to have offspring.
9. Endocrine: system of glands and the hormones secreted influencing or controlling metabolism, growth, reproduction, (i.e. thyroid, thymus, sweat).
10. Lymphatic: body wide network of lymph nodes the support the immune system and the circulatory system keeping it supplied with plasma.
11. Immune: a complex system that identifies harmful pathogens like bacteria, viruses and fungi and responds to protect the pet.
12. Integumentary: skin/scales/fur/claws/hoofs and the structures or growths that protects or covers the body.

**Slide 31 Anatomy / Skeletal**

Includes bones, teeth and cartilage which we refer to as the “hard frame”. The skeletal system works together with the muscular system which is made up of muscles, cartilages, tendons, ligaments and other connective tissues.

* The dog skeleton has an average of 319 bones and is designed so the dog can run, chase and hunt.
* The cat skeleton has an average of 230 or more bones. cats. Between the two, felines come out on top with superior strength and hunting abilities.
* Anatomical Position (standing on all fours) the pet’s front elbow points to the heart.
* A pet’s rib cage functions more like a bellows, it flails out more than us humans. Example is a Whippet after running the chest/ribs dramatically move in and out. This makes the sub abdominal thrusts (“Heimlich” Maneuver) less effect on pets because the chest expands and does not provide the force necessary to pop the object up.

**Slide 32 Anatomy / Circulatory**

A network of arteries, veins and capillaries powered by the heart moving oxygen-rich blood cells throughout the body.

* The circulatory system includes the heart, blood, blood vessels, lymphatic system and spleen.
* This system is responsible for delivering oxygen and nutrients to the cells of the body and removing waste products.
* The heart has four chambers with four valves. It is the closure of the heart valves that gives the “thump-thump” heart sounds.
* Compressions in CPR manually keeps the blood flowing through it and out to the cells of the body. \*\*\* as the heart constricting on it own moving blood through the system and out to the cells of the body.
* Bleeding management’s imperative is to keep the blood in the body so the pump doesn’t run dry.

Fun Fact: In one year, a cat’s heart will beat over 63 million beats!

**Slide 33 Anatomy / Respiratory**

Includes nose, mouth, airway and lungs for breathing; taking oxygen from the air and expelling carbon dioxide.

* The respiratory system aids in regulating body temperature.
* Its purpose is to carry oxygen from the air to the blood and remove carbon dioxide from the blood and transfer it out of the body.
* To prevent food and water from entering the lungs, the epiglottis covers the trachea when swallowing occurs.
* Tie in Rescue Breathing
* Choking Management