Accurate BP Starts with Proper Technique

BLOOD PRESSURE MEASUREMENT METHODS

DIRECT ***(invasive)***
Achieved by placing a catheter in an artery

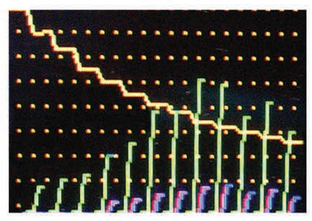
INDIRECT ***(noninvasive)***
Achieved by placing a cuff on a limb or tail

OSCILLOMETRIC
Measures pressure resulting from arterial wall pulsations

DOPPLER
Measures sound resulting from blood flow return

Theory of Operation - Oscillometeric Method

Oscillometric blood pressure is determined based on arterial wall pulsations as the cuff deflates. The entry of blood into the artery compressed by the cuff makes the wall of the artery expand or “pulse”. These pulsations travel through the soft tissue to the surface of the limb where they are detected by the cuff and analyzed by the device’s microprocessor. This analysis provides systolic, diastolic and mean arterial pressure readings along with heart rate.

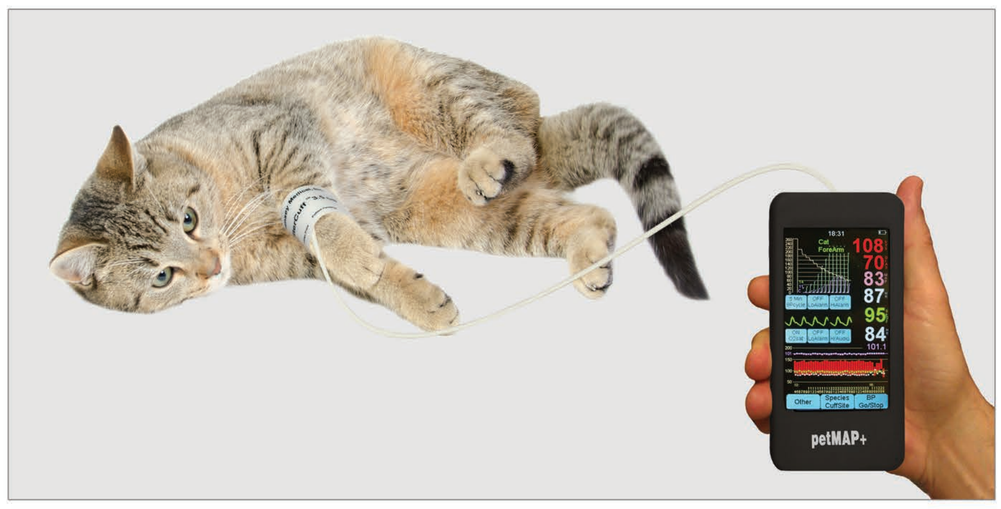


Good Pulse Envelope

Guidelines for Best Results

Heart Level

Place the cuff on a limb that is as close to heart level as possible. Every inch of vertical difference between the heart the cuff will result in an offset of +/- 2 mmHg. If the cuff is higher than the heart, the reading will be lowered by 2mmHg/inch and increased if the cuff is lower.



Cuff: Right Size & Snug Tight

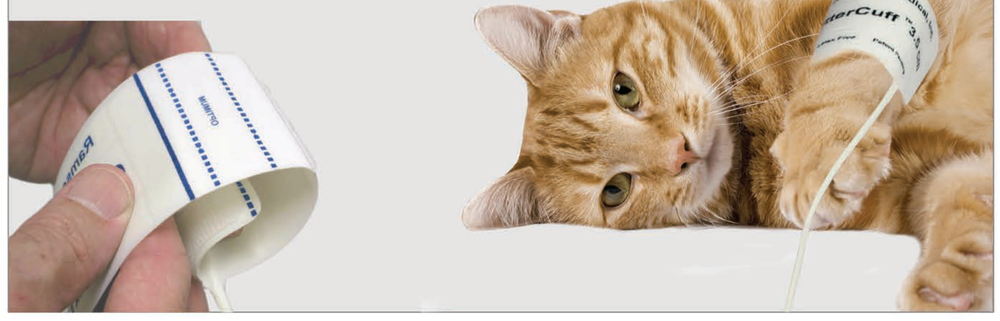
BEST CUFF SITES:

CATS: Forearm, Tail
DOGS: Tail, Forearm

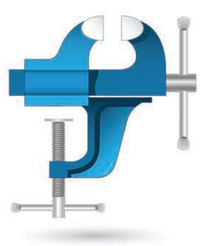
(hind foot should only be used if tail and/or forearm cannot be used).

Select the proper sized cuff and apply it, snug tight. No need to shave the hair or fur, although wetting thick fur can make good cuff fit easier.

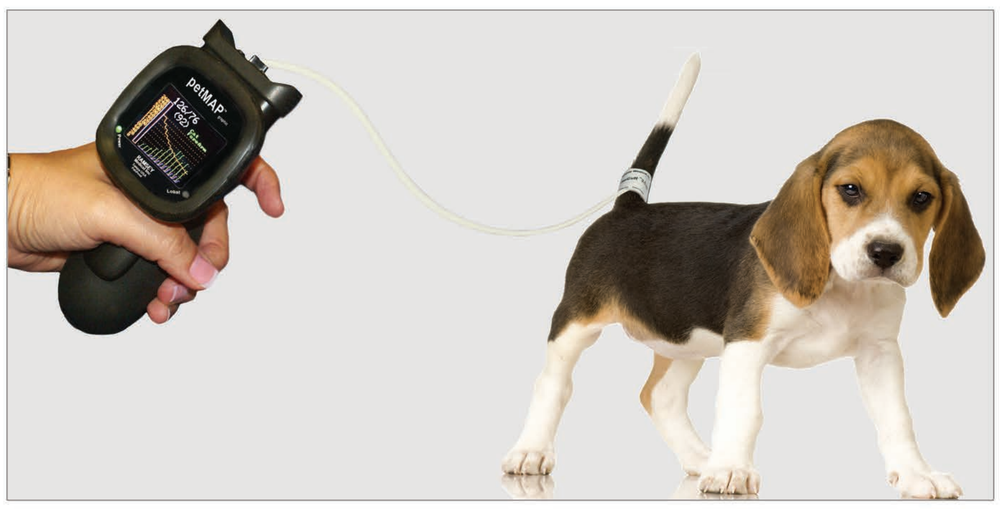
If using CritterCuffs, when wrapping the cuff around the animal’s limb, the index line should fall between the two “OPTIMUM ZONE” dotted lines, as shown, but never out of the solid boundary lines.



No Pressure on Limb; Restrict Movement



There should be no pressure on, nor any movement of, the limb or the animal during a BP reading. This is essential.



Comparing petMAP readings with Doppler and IAP readings.

All petMAPs have settings for species (dog, cat) and cuff sites (forearm, hindfoot, tail). Use of these settings will improve petMAP’s correlation to intra-arterial readings, based on norms. Readings resulting from Doppler use tend to underestimate systolic pressure and often are more similar to MAP. For that reason, systolic blood pressure resulting from petMAP will often be higher than determined by Doppler, as well as other non-optimized ocillometric devices, but generally will correlate well with IAP.

Tips for best results with Oscillometric BP on awake patients:

The biggest challenge is movement. To reduce movement:

- Calm the animal
- Have the owner hold them
- Stabilize the limb and/or place the cuff on a different limb (eg., base of tail vs. forearm).
- View the petMAP oscillometric envelope to confirm good readings.
- Take multiple readings. 3-5 are typical. petMAP will provide the NSV (Nominal Session Value), a statistical calculation resulting from the session’s determinations.

For more information on petMAP, contact us at (800) 231-6370 or visit our website, www.petmap.com

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