



## **THINGS TO CONSIDER**

### **Before Purchasing a**

### **Veterinary Vital Signs Monitor**

*We realize selecting an anesthesia patient monitor is an important, difficult and expensive decision, one that you will be living with for many years after your purchase.*

*We are very selective in choosing who and where our Vet Trends™ monitors are manufactured. The manufacturer must be located in the United States and meet all quality control standards. We are also very selective in what patient parameters are built into this monitor. After all, this product carries the name of our company “SystemVET™” and along with it the medical responsibility and well being of someone’s beloved pet.*

*We would like to have you take time to consider some very important points in making your decision; we certainly did when we designed our product and decided who will manufacture it.*



**Before you purchase a Vital Signs Monitor you should ask some important questions.**

1. Where is the monitor going to be used?
  - i) Anesthesia
  - ii) Transport (transporting a patient to X-Ray, C-Scan or MRI)
  - iii) Critical Care.

This may seem like a silly question, but if you don't think about this question seriously, you will most likely regret your decision shortly after buying it. Attempting to sail the Atlantic in a Kayak may seem like a great idea while in the Kayak store, but will certainly be a most regretful purchase a few hours after leaving port with challenging weather conditions setting in. A correctly chosen vital signs monitor will be an angel in operating room, notifying you of imminent patient danger, giving you time to respond. Choosing the wrong monitor could result in incorrect or confusing information, potentially resulting in incorrect action, *placing* the patient in imminent danger.

Monitors are designed for three primary areas: transport, anesthesia and critical care.

- a) **Transport monitors**, either human in-house (hospital) transport or Human Emergency Medical Services (EMS). In both of these cases the design requirements are the same. The monitor must be as small and lightweight as possible and the battery should last as long as possible. However, in order to accomplish these objectives, several major concessions are made. The screen is greatly compromised whereby reducing brightness, eliminating color and screen size and the printer is eliminated to significantly increase battery operating time and reduce weight. Although these features are wonderful for use in the back of an ambulance or transporting a trauma patient to MRI, using this monitor in surgery would be frustrating and certainly ill-advised.

The anesthesia area where AC power is readily available and a strong clinical need to view patient vital signs clearly on the screen, with diagnostic quality printing capability is no place for a tiny light weight transport monitor. Like the small, light weight Kayak, the situation requires a very different product that is up to the task should a patient be in trouble. Unless there is a need to setup a MASH unit in the wild, a transport monitor used for anesthesia is a bad choice for surgery cases.

- b) **Anesthesia monitors** are called on to perform in a very different, more demanding environment. As mentioned before, making concessions on the brightness and size of the screen fails to consider what the primary purpose of the monitor is. A patient under general anesthesia is serious business and requires a serious monitor. *A transport monitor is not designed for serious anesthesia monitoring.* In fact one could argue that a transport monitor is contra indicated for anesthesia. A true anesthesia monitor must always have a large, bright, logically organized, high quality screen for a simple, logical presentation of patient information. Further more this monitor must not be adversely affected by electrocautery, laser and other equipment commonly used in surgery.

Note: We suspect over 90% of monitors in veterinary medicine are purchased, primarily for use in surgery. Yet, many veterinary clinicians have been sold a transport monitor which was never designed for anesthesia. A transport monitor used for anesthesia may make clinicians feel better because they have *some monitoring* on-board. But in reality they have not taken any real actions to improve anesthesia outcomes, and may actually inject chaos into an uneventful anesthesia case. A confusing and illogical screen layout makes it difficult for a clinician to spot trends and diagnose a patient in trouble. This may compromise anesthesia safety by creating false assessments with a small cluttered illogical screen, potentially soliciting incorrect or at worst an inappropriate dangerous response.

- c.) **Critical care monitors**, the critical care monitor has capabilities that go beyond the needs of most veterinary applications. However, the need for invasive blood pressure and a central station is increasing in interest in critical care facilities. In these critical care environments the acuity level of the patients is at the highest level, requiring a comprehensive critical care monitor. However, the vast majority of surgery performed in these high acuity environments would not call for a cardiac critical care monitor.

It is interesting to note, unlike the “contra indication” of a transport monitor used in anesthesia, the Critical Care monitor can be used in long and complicated anesthesia cases with excellent results. However, the critical care monitor is considerably more complicated to operate; requiring higher monitoring skill levels then would most likely be found in general practice. It should also be noted that all critical care human monitors have arrhythmia detection.

Human arrhythmia detection is incorporated in all imported critical care monitor. However, using these human arrhythmia algorithms on veterinary patients will certainly cause complete frustration for the veterinary clinician.

## 2. Where is this monitor manufactured?

In this age of imports, where a monitor is manufactured is critical to know, for two reasons.

1. Service: Consider this typical journey of a Chinese monitor:

- The Cardell Max12 monitor is manufactured in China (By Goldway)
- It is transported to a Chinese dealer in Long Island NY
- From Long Island it sold to a US veterinary importer (Sharn/ Midmark/Cardell)
- From Sharn/Midmark it is sold to a US veterinary dealer (Butler/MWI etc.)
- Finally it is sold to you

What are your chances of getting any support for this product after you buy it? This scenario exists today with one of the major companies selling monitors to the veterinary community. The majority of veterinary personnel buying this company's monitors believe this company manufactures the monitor. In reality the company is an importer of Chinese products. Over 80% of what this company sells to the veterinary community comes from manufacturing facilities in China and the management from this company has never inspected the Chinese facility.

All medical electronic equipment will require service within the warranty period or outside of the warranty period. When this occurs... Where do you go for service? When you have questions about the monitor... Who do you call? What happens if anyone of these links in the chain is broken? The point is simple. You must have direct access to the manufacturer.

This may seem simple but may actually be very frustrating. Finding out who manufactured the product can be very challenging. Once you have been given the name of the manufacturer, verify this information by calling the manufacturer and asking for a copy of all quality control certificates. It is imperative to see this documentation, verifying where the product is manufactured and what quality standards were used.

Remember your distributor very likely, does not know who the manufacturer of the monitor is. This information is often deliberately hidden from the veterinary distributor as well, by the importer.

Note of warning: When someone tells you something is *assembled* or *designed* in the United States, don't walk! Run! This is code for "*made in China*". Truth in purchasing (and manufacturing) is something you will have to work at getting before making your decision. Ask for the *ISO, CE, UL and FDA documents directly* from the manufacturer. If you get the "run around" consider yourself lucky... you dodged a bullet! A company selling a quality product should be proud to show you these documents. You can also go to the FDA website and see if the manufacturer has any issues filed against them. This may be a real eye opener!

You don't have an FDA or a Biomedical Department running cover for you, like your human medicine counterparts. Your purchasing process will have to be at arms length and buyers beware! Remember the most important person in your buying decision is the MANUFACTURER, not the dealer or importer; it's the company that made the product and will support it after you buy it.

2. Quality: It is no secret that the current Chinese imports are often manufactured with very questionable quality standards. Now with very large companies like Phillips buying small Chinese manufacturers to buy regional Chinese markets, it is becoming fashionable for the importers to boast of their Chinese products “now made by Phillips”. Don’t be fooled by this. We most likely will never see these small Chinese manufacturers building monitors for the US human market. This activity is to buy Chinese market share. However, all the same questions are present. Where are the products going to be serviced? If it is manufactured in the US, you stand a much better chance of getting your product supported.

**It is often frustrating for veterinary clinicians to determine where monitors are made. This list should be helpful.**

<u>Company Marketing the Monitor</u>	<u>Product Name</u>	<u>Company Manufacturing the Monitor</u>	<u>Location of the manufacturing company</u>	<u>Monitor designed for what clinical area</u>
SystemVET	Vet Trends™	Ivy Biomedical	Connecticut, USA	Veterinary Anesthesia, pre, intra and post operative
Sharn/Midmark	Cardell 9500	Goldway	<b>China</b>	Human in Hospital <b>Transport</b>
Sharn/Midmark	Cardell Max12	Goldway	<b>China</b>	Human <b>Cardiac Care</b>
Sharn/Midmark	9400 Series	CAS Medical	USA	Human <b>Ambulance</b> and In Hospital Transport
Grady		Minray	China	Human <b>Critical Care</b>
Digicare	Life Window	Digicare	USA	Veterinary
SurgiVet	Advisor	SurgiVet	?	?

*If you have questions or comments please feel free to contact me at:*

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