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Going Digital

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ABSTRACT: In an age where information is instant, it is not surprising that veterinary practice technology has followed suit. Digital imaging, coupled with a picture archiving and communication system (PACS), can increase the efficiency and profitability of a veterinary practice. So if you think it may be time for your business to embrace the digital age, be sure to read on. This article examines the advantages of going online and how digital systems can be utilised.

Introduction

With many veterinary practices now benefiting from computerised practice management, incorporating digital devices, imaging and data storage seems the next logical step for many modern surgeries. Gone are the days of cumbersome, old-fashioned film systems and hard copy storage. Now is the time to go digital.

In the first instance, upgrading from traditional X-ray equipment to digital eliminates the need for films, jacket and processor maintenance, thus reducing practice costs. However, in order to fully utilise the potential of digital imaging equipment and further increase practice profitability, an efficient computer system needs to be in place, ensuring that information is effectively managed and available for access for all those who require it.

DICOM

Digital imaging and communications in medicine (DICOM) is the standard for handling, storing and transmitting information in digital medical imaging. It enables the veterinary team to view and manipulate digital radiographs, MRI scans and CT scans on computer monitors, and benefit from a variety of viewing tools.

Each DICOM file has a unique identification number, within which details – such as patient name, type of scan, device used, dimensions and so on – are embedded. This ensures that the image and its accompanying information can never be separated. For veterinary practices, this is a particularly important aspect and means that animal records can easily be kept well ordered.

PACS

A picture, archiving and communication system (PACS) enables the reviewing and archiving of DICOM files (**Figure 1**). PACS are able to store images from multiple imaging modalities – X-ray, CT, ultrasound, MRI – in one place. Images

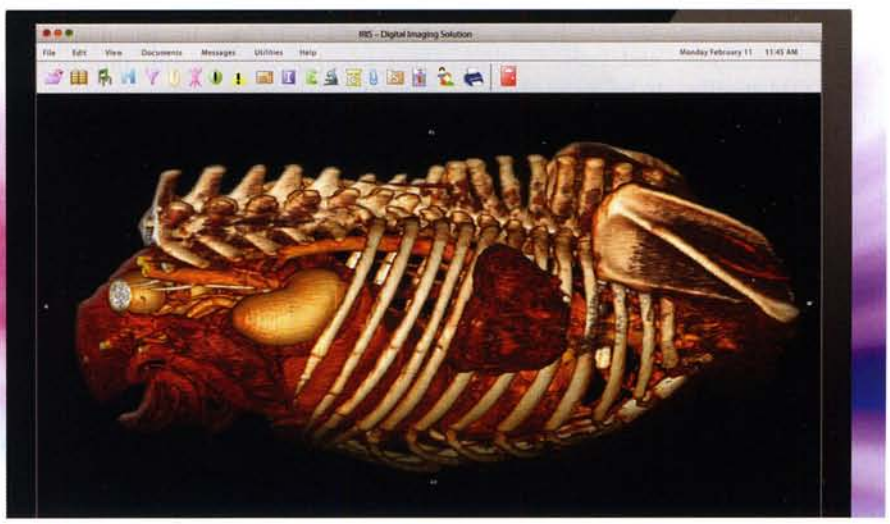

Figure 1. Digital imaging, coupled with PACS, can increase the efficiency and profitability of a veterinary practice

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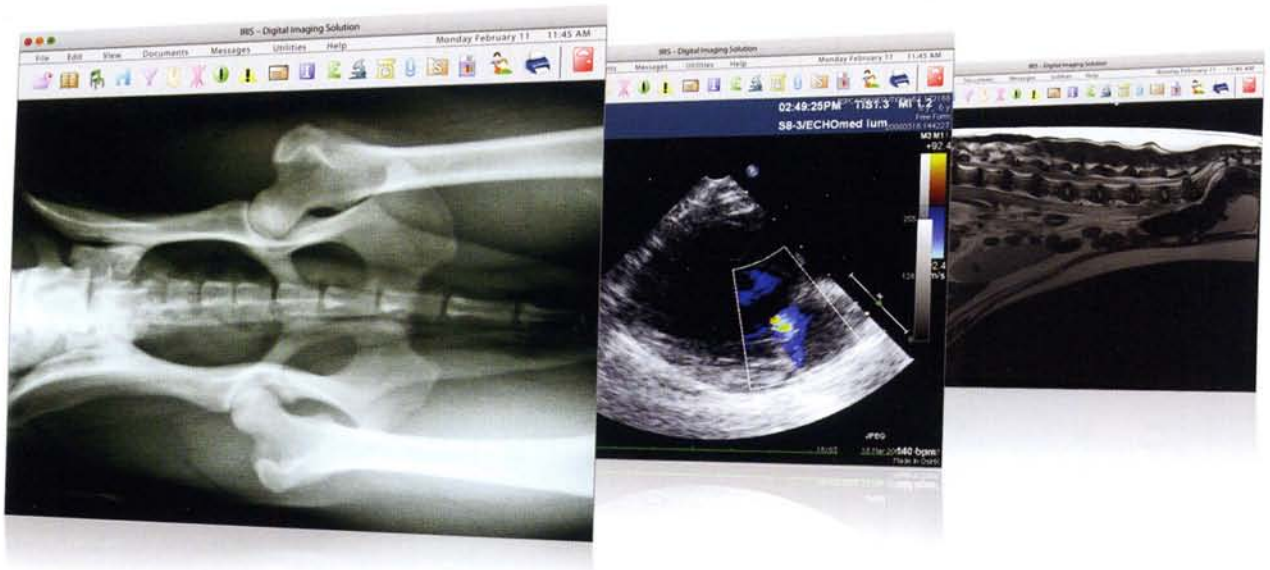

Figure 2. Store images electronically from multiple imaging modalities with a Picture Archiving and Communications System

no longer need to be stored on film or printed, thereby occupying a great deal of space; rather, they can be stored on the PACS server.

There are many new and developing picture-archiving and communication systems available to today's modern veterinary practice, and each varies in its capacity and functionalities.

Essentially, the best digital imaging systems will have the ability to process, view, access, manipulate, archive and communicate DICOMs and other digital media, as well as entire DICOM studies (constituting multiple files) from multiple terminals and locations via a networked system.

They will also have a number, if not all, of the following capabilities:

- the ability to store DICOM together with clinical and patient records, as well as with notes and other digital media
- a complete networked system that allows DICOMs – and, indeed, entire DICOM studies – to be viewed and manipulated from any terminal on the network, internally or externally from the practice
- configuration for swift data transfer throughout the network
- robust imaging software that encompasses a number of advanced options, such as developed rendering and multi-modal options, images with easily identifiable scale and measurements, highly developed dimensional options and the ability to zoom in/out of images, as well as flip and rotate them
- a large data storage capacity
- automated data back-up and network synchronisation
- off-site data storage facility
- remote access capability
- the ability to integrate with digital imaging devices in the practice.

Advantages

The advantages of digital imaging and data storage to the veterinary practice are numerous (**Figure 2**).

Digital imaging can improve practice efficiency and, in turn, increase client appeal. Scans and X-rays can be taken in one room, then viewed moments later by the client during consultation; thereby enhancing client service and leading to more rapid diagnosis.

Furthermore, where veterinary staff were once equipped with a 2D print-out, digital imaging can provide 3D images that can be rotated, increased in size and explored in greater depth, thus increasing reliability in diagnosis.

Similarly, images stored on the PACS server can be shared with clients during consultations in the field; whether on a farm or stable yard, veterinary staff can access the system via a laptop and share patient results.

Alternatively, if a patient is referred to the main surgery for a digital scan, the client is not required to travel any further distance at any additional cost to view the results; rather, within moments of the X-ray being taken, the digital image can be viewed in the branch practice.

Digital imaging systems can, therefore, maintain and expand your client base with the simple assurance that the practice is providing the very best and most up-to-date service.

As well as reducing the pressure on space, digital storage of images reduces the demand on staff time and negates the need for physical storage space. Staff will no longer need to actively search for films through libraries of patient records, nor will they be required to file them away or archive them for fear of exceeding the buildings capacity; instead, images are just a 'click' away.

Conclusion

Digital imaging systems are faster, easier and more reliable than the manual alternative, enabling staff to spend more time viewing and assessing medical images.

Of course, some practices may decide that the time is not yet right for them to invest in digital equipment and to swap their films for the screen. The key is to be confident that your practice is ready to embrace the change and to ensure that the system you choose will work for you in the best and most efficient way.

Digital devices, imaging and data storage has the potential to improve your practice's efficiency and heighten your clients' experience, thereby increasing profitability. So, why not ask yourself, is it time your practice embraced the digital age? VNJ