



## Waikato DHB / Pinnacle – Practice Guidelines

### Guidelines for the Purchase and Setup of Digital Cameras – For Clinical Use within a Practice

For use by:  
Practice Managers  
General Practitioners  
Practice Liaison



#### Version History

| Version | Date        | Changed By | Revision Description |
|---------|-------------|------------|----------------------|
| 1.0     | 22 Jan 2009 |            | Release Version      |

## 1. Introduction

The availability of low cost high resolution digital cameras has increased the likelihood that digital patient images will be taken, and stored electronically within GP practices.

Hospital services, particularly dermatology and plastics, are increasingly likely to request digital images to accompany patient referrals to assist with triage.

This document has been created to assist GP practices with the purchase and setup of Digital Cameras for clinical use.

This guideline has been informed by:

- Image management issues identified during pilot of electronic referrals
- Waikato DHB dermatology guidelines for referral
- Waikato DHB image management policies and procedures

This document is intended to provide guidance for General Practice which may be adapted to local conditions, depending upon the availability and use of digital cameras and configuration of practice IT systems.

## 2. Purchasing a Camera

Digital compact cameras are readily available for under \$500 that easily exceeds the following minimum requirements:

- 3 million effective pixels (3 mega pixels)
- 3x zoom
- Built-in flash
- Macro with minimum focus range  $\leq 10$  cm (ability to take close up pictures)

Choose a model that claims to have low 'noise' in low light (the images should be higher quality when taken indoors and less reliant on the flash). These models stabilise the image by reducing the effects of vibration and increasing the ISO rating.<sup>1</sup>

Most recently the technology available with newer cameras has resulted in files of significant size which are too large for efficient electronic transmission; in these cases too high a resolution camera can create a problem for transmission.

## 3. Camera Setup

### ***Date and Time Stamp***

Most cameras have a date function which allows the date and time of the photo to be added to the image; usually in the bottom right hand corner. For most home use of digital cameras this feature is turned off; however it is an advantage to have this feature turned on for clinical use.

Having a date and time stamp can assist with monitoring the progression of disease states over long timeframes, and can also assist with deleting / archiving of older images that are no longer relevant to patient care.

### ***Setting the Time***

Use of the date and time stamp feature requires that the camera clock is set correctly. Some cameras do not have the clock set at the factory and require this to be set at first use. Some cameras will lose the clock setting if they are left unused or without batteries for a significant length of time.

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<sup>1</sup> ISO rating is used to measure sensitivity to light – the higher the ISO rating the shorter the exposure time required, or the less light required for exposure.

### ***Setting the Camera Resolution***

#### **For Printing:**

If the intent of the image is to be printed set the camera to take the image maximum resolution (e.g. “2272 x 1704”) and maximum compression quality (e.g., “Fine”).

The problem with setting a camera at such high resolution is that the resulting file size may be very large and require resizing to be able to send the image electronically.

#### **For Sending Electronically:**

If the images are to be transmitted electronically, reduce the dimensions or resolution of each one to 640x480 pixels at 72 ppi (make it clear in your communication that a larger size image is available if required).

Depending on the resolution of the camera some ‘playing’ with the settings may be required. The resulting image size should be in the range 100kB – 300kB.

Many electronic transmission systems have a size maximum on the size of the message. For HealthLink messages this limit is 2 Mb (megabytes) (or 2,000 kB). The 2 Mb size also includes the message and the overhead for encryption (security). This effectively reduces the maximum total size available for attachments to 1,700 kb (approx). At 300 kB per image this will allow 5 images to be attached.