

# KODAK DIRECTVIEW CR System Performs under Rigorous HARP (Healing Arts Radiation Protection Act) Dose Regulations

## Statement

In many states and countries, strict regulations exist governing maximum doses patients can receive during radiological examinations. Each enforce their regulations with regular surveys conducted by certified radiation protection officers, usually scheduled on an annual and semi-annual basis, to facilities employing x-ray radiation to image – including chiropractic and dental health services.

## Introduction

In the Province of Ontario, Canada, HARP regulations stipulate the maximum ESE (entrance skin exposure) dose a patient can receive during medical radiological examinations. Table 1 (below) lists the ESE limits for various projection radiography examinations. The ESE is measured with a dosimeter at specific distances from the imaging receptor (second column) in air, and does not include backscatter radiation.

**Table 1** HARP Dose Regulatory Limits.

Examination	Distance from receptor (cm)	ESE (mR)
Chest PA	23	20
Abdomen AP	23	450
Lumbar Spine AP	23	500
Lumbar Spine Lat	32	2000
Thoracic Spine AP	23	400
Skull Lat	15	170
Cervical Spine AP	13	120

Source: [www.e-laws.gov.on.ca](http://www.e-laws.gov.on.ca)



## The KODAK DIRECTVIEW CR Solution

Digital capture with computed radiography (CR) utilizes image processing algorithms that exploit the full range of the original acquired digital data. To this end, Kodak has developed a full suite of patented algorithms. This core suite of patented algorithms forms a common platform across our digital acquisition devices. Image processing techniques are used to display a wide range of exposure values while preserving or enhancing the contrast of important diagnostic details.

In Ontario, more than 140 KODAK DIRECTVIEW CR 800, 850, 900 and 950 Systems are in use daily in high throughput facilities with very demanding imaging environments (see Table 2). All facilities adhere to HARP dose regulations. The techniques used at the various radiological centers are tested for ESE compliance by certified radiation protection officers every six months.

**Table 2** Partial list of Ontario radiological facilities using KODAK DIRECTVIEW CR Systems since 2000.

Province of Ontario Hospital CR users
University Health Network (Toronto)
London Health Sciences Centre
Hamilton General Hospital
York Central Hospital (Toronto)
Ottawa Hospital
St Michael's Hospital (Toronto)
University of Guelph
St Joseph Hospital
Windsor Regional Hospital

CR Systems are used in facilities that have made the commitment to digitally transform their projection radiography department, representing the bulk of radiographic exams. Many of them are increasing their use of KODAK DIRECTVIEW CR Systems primarily because they provide superb image quality rendered at these doses.

## Summary

KODAK DIRECTVIEW CR Systems can deliver diagnostic images under challenging ESE dose conditions. This has been demonstrated repeatedly in Ontario, Canada where University teaching hospitals and large trauma hospitals have conscientiously selected KODAK DIRECTVIEW CR Systems for their projection radiographic diagnostic needs.

Challenging radiographic examinations, normally encountered in such clinical environments, are being captured routinely with computed radiography technology. Kodak's patented image processing suite displays these imaging requirements as determined by highly specialized radiologic professionals.



The CR images provide our radiologists with excellent detail and contrast and superb image quality for all body part images. The technologists find the KODAK DIRECTVIEW CR System very user friendly, especially due to the color coding."

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"The KODAK DIRECTVIEW CR 850 System provides us with the image quality and details that we expect from Kodak and at exposures that are well within the Ontario dose requirements."

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