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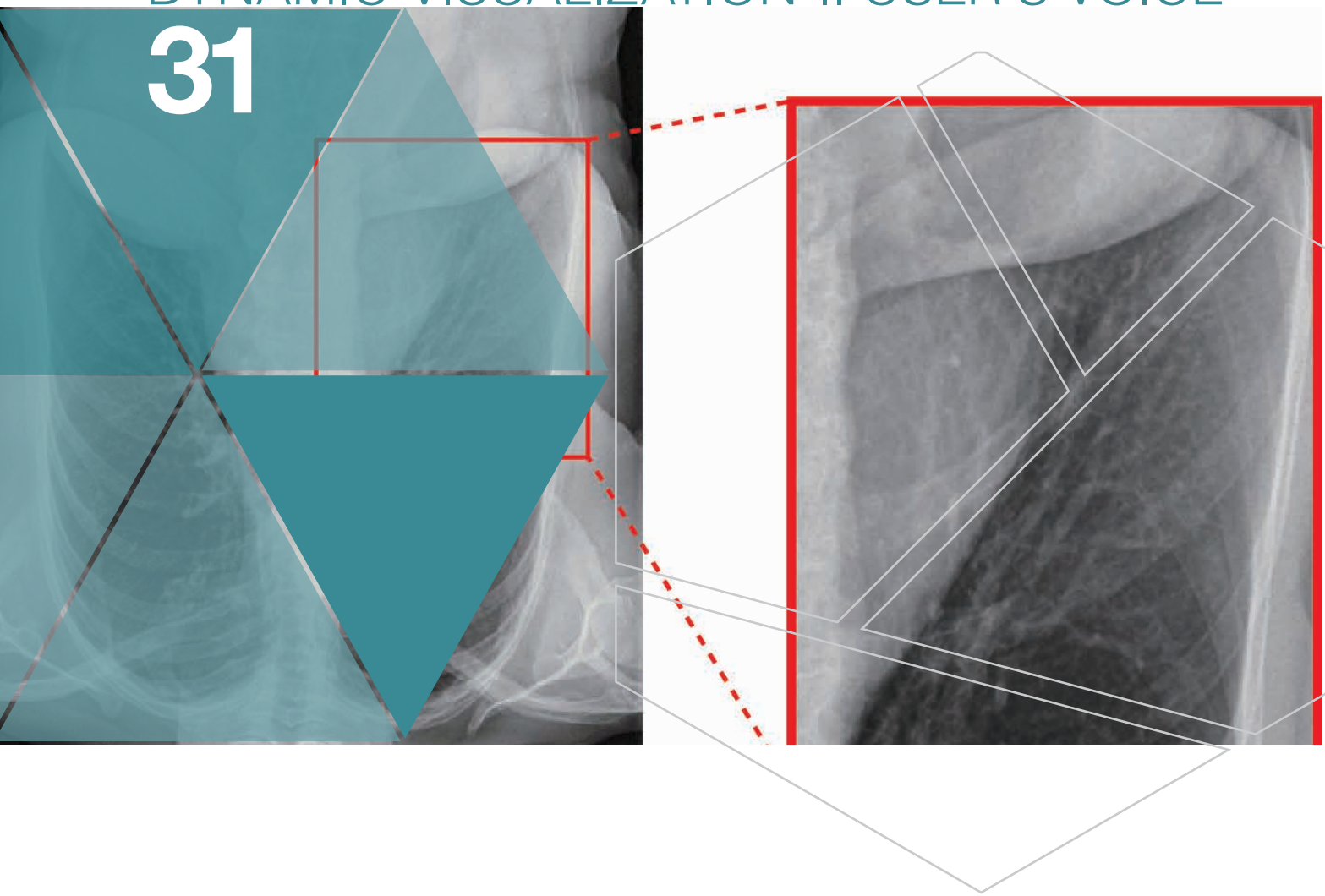
# DYNAMIC-VISUALIZATION-II USER'S VOICE




# Digital Radiography

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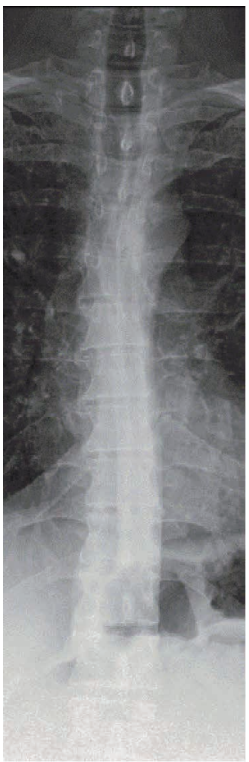
# Advantage of Dynamic Visualization II on Noise suppression - Enhancing the image contrast whilst reducing doseer

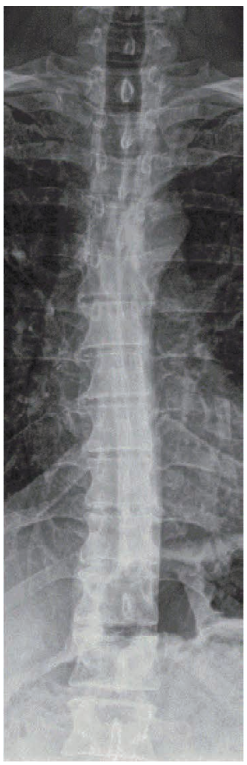
Dr. Alvin Chan,
MBBS, FRANZCR, Radiologist and Sherri Ford, BAppSc., Chief Radiographer
High Street Medical Imaging, Sydney NSW, Australia.gal

High Street Medical Imaging (HSMI), is an Australian independently owned radiology practice. Located in the Western suburbs of Sydney, NSW it is one of five practices within "The Radiology Group".
With the commitment to deliver a superior service to both patients and referrers, HSMI combines the latest equipment with highly experienced medical and technical sta_.
Performing over 8,800 General X-rays examinations per year, HSMI also provides comprehensive Radiology Services including MRI, CT, Ultrasound and digital Mammography with Tomosynthesis.

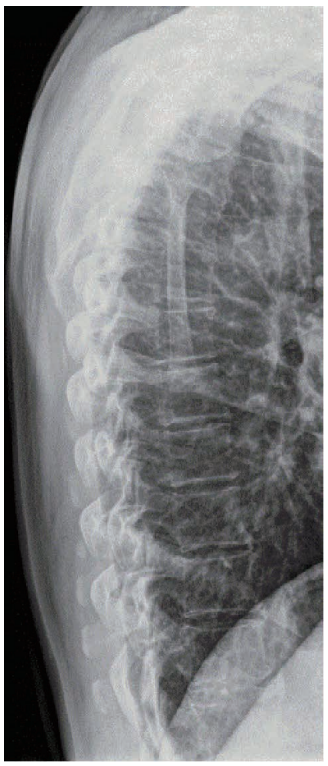
In recent years, the awareness of radiation dose has been growing amongst the general population in Australia. Therefore HSMI continues to investigate methods to reduce the X-ray dose to the patient under the international concept of ALARA (as low as reasonably achievable).
In February 2018, HMSI introduced FUJIFILM's advanced image processing technology "Dynamic Visualization II" (DYN II) and then conducted an evaluation to investigate if the patient dose could be reduced using this image processing technology whilst maintaining the same diagnostic image quality.

**Male Patient, 52Y** Thoracic Spine Frontal, 80kV, 8.64mAs



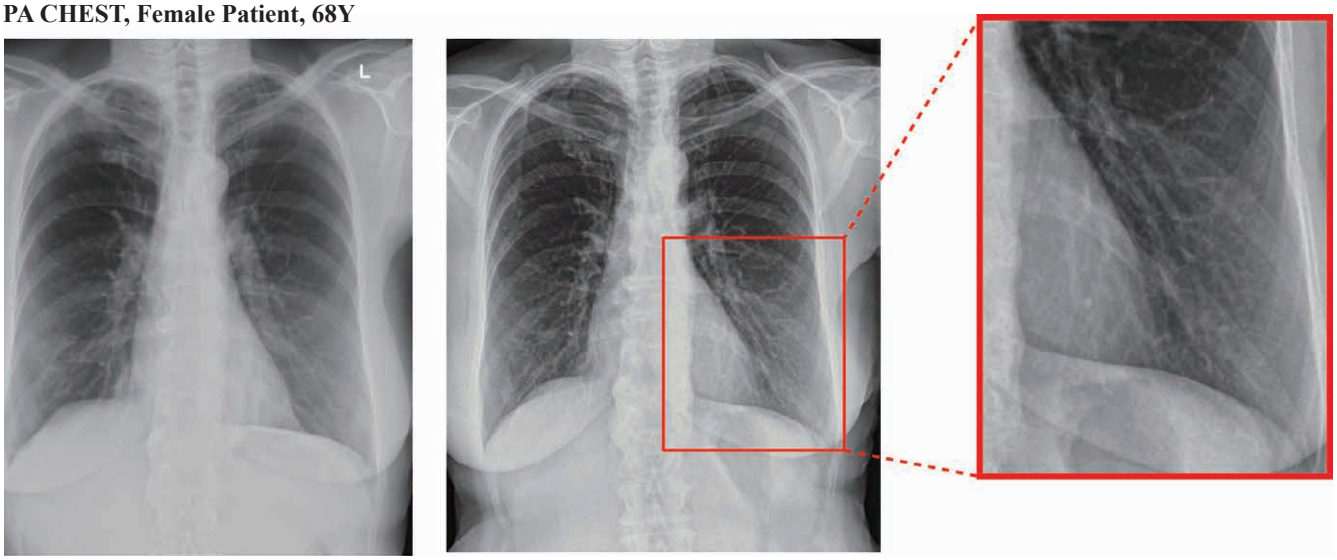


DYN II OFF



DYN II ON

**PA CHEST, Female Patient, 68Y**



Study date: 2017
Standard Processing. 110kV, 2mAs
Entrance surface dose 90µGy

Study date: 2018
DYNII Processing, 120kV, 0.9mAs
Entrance surface dose 53µGy

**Dose Reduction approximately 40%**

## What is your first impression on DYNII processing image?

**Dr. Chan:** DYN II provides more details and sharpness in the image. Overall impression is very good particularly with the dose reduction. You get more information with DYN II. Definitely it is better on the frontal and lateral views of the Thoracic Spine compare to the X-ray with DYN II o_. The graininess in the image is also less evident.

## How did you proceed the evaluation?

**Sherri Ford:** After it was confirmed that the DYN II processing enhanced the image contrast, HSMI looked into the possibility of dose reduction by conducting a trial for four months. The image quality was monitored constantly for all body parts while the dose was incrementally reduced. As a result, it was found in some instances the dose to the patient could be reduced up to 40% without any negative e_ect to the diagnostic image.

## What is the benefit of the DYNII processing in the diagnosis?

**Dr. Chan:** In our evaluation, diagnostic information is improved for Chest X-rays as it is possible to see the lung markings behind the heart shadow.
With DYN II processing I am able to see more detail in the mediastinum and the lung fields.

## Other benefits?

**Dr. Chan:** When you change the window level with the standard processing it is possible to lose detail but with DYN II
you don't need to manipulate the images as much.
You can see much more detail on the images with DYN II. Certainly it is a time saver for me.

## Overall Comments on DYN II

Overall it is very useful, particularly Chests, Abdomen and Pelvis examinations. With the dose reduction it is a 'no brainer'. You have to try it yourself to see the benefits!
Sherri Ford: We always strive to keep the dose to the patient as low as possible so we are very happy that DYN II allows us to significantly reduce the dose further. Our facility provides imaging for a significant paediatric population, so having the lowest dose is really important for us.

**Sherri Ford**
BAppSc., Chief Radiographer

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