

# EASY LATERAL RADIOGRAPHIC HOLDER

## KOLEJ KEMAHIRAN TINGGI MARA (KKTM) LEDANG, MALAYSIA

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### Abstract

The Easy Lateral is a compact, portable and efficient cassette holder. It is a brilliant idea to facilitate x-ray interpreters to work on traumatic patients who cannot be moved. It is specially created to facilitate the examination of trauma x-ray in performing lateral decubitus projections and gain center horizontal beam. It helps the radiographer to deal with patients that are incapable of changing posture when the x-ray images are taken.

Added with special feature, easy lateral radiographic holder is embedded with dose rate meter that can aid to patient radiation dose assessment. Build in an ionization chamber with OLED screen that can display instantaneous dose rate to the patient family member's telephone and also can be monitored by radiographer and physicians. International Commission on Radiological Protection (ICRP) recommended to reduce stochastic effect which is probability of radiation-induced cancer and genetic damage by monitoring patient dose.

This innovation is developed by KKTM Ledang collaboration with Medivest Sdn. Bhd (Tangkak Branch) and Hospital Tangkak.

### Benefit of Application

- Multi view and can be positioned accordingly (lateral and PA/AP)
- Ease the patient from moving and changing postures when taking images
- Prevent any fatal injury to patient that are cause by the movement of patient
- Holding radiographic film cassette to get the best images of x-ray



Figure 1.a: The two pictures shows the condition of taking the lateral x-ray images with Easy Lateral (left) or manually (right)

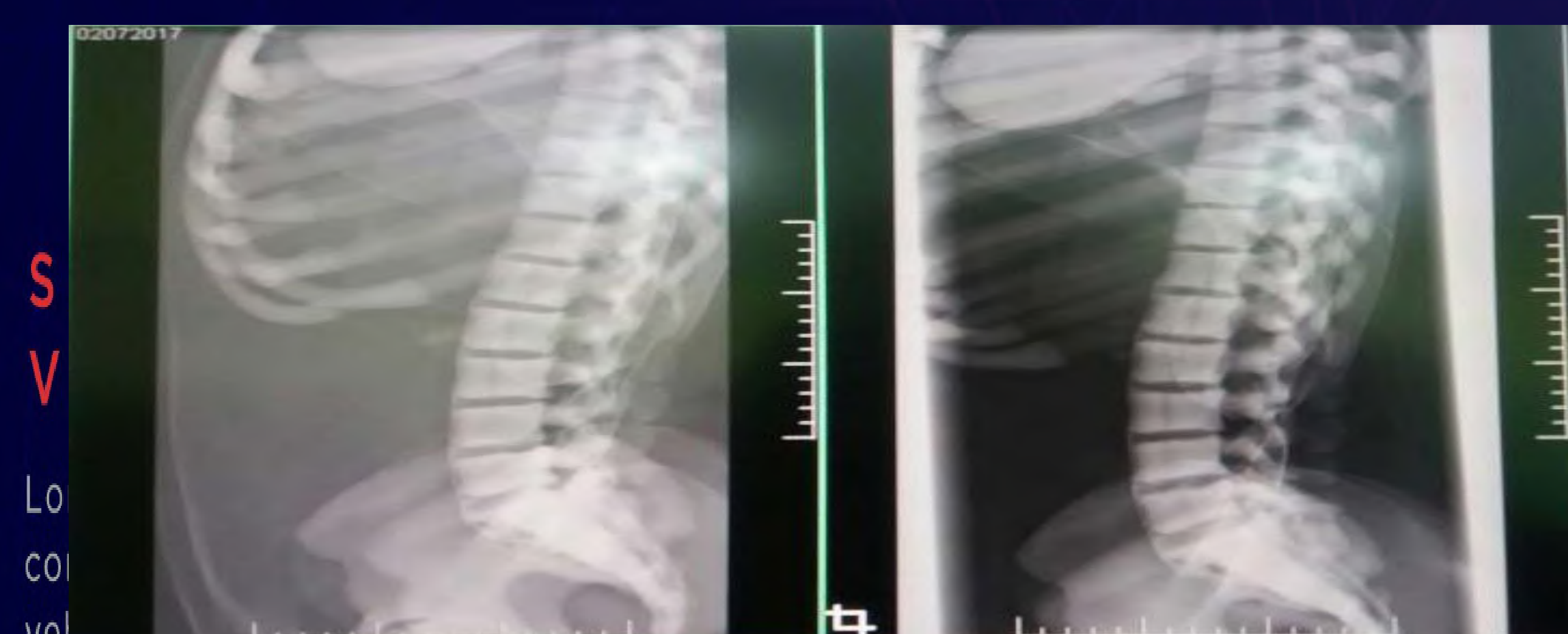


Figure 1.b: The two images as results of using Easy Lateral (right) or without easy Lateral (left).

### Novelty

- Portable and easy to handle without the need of expertise
- Design is made specially for patient with spinal problem
- Product come at low cost

### Advantage / Benefits

- Lower risk of radiation hazard to patient
- Reduce patient exposure dose rate
- Ease the patient from moving and changing postures when taking images.
- Reduce the number of shoots taken
- Prevents the possibilities of over radiation exposure
- Make the whole process more convenient
- Saves more x-ray film that cannot be used because of low quality images produced

### Methodology

The Easy Lateral Holder are modify as a T Shape. It has a holder base that can hold multiple cassette size from 35cm x 35cm, 35cm x 43cm and 24cm x 30cm. It is used by inserting the plat holder under the patient body without a lot of movement from patients. By considering the 'grid cut-off' problem, the image fall onto the cassette has been measured accurately to find the center beam x-ray. Doctor can diagnose accurately and patients can be handled easily by radiographer.

### Commercialization / Market Potential

- Government and Private Hospitals
- Radiography Department
- Clinics
- Radiology & Imaging Centre
- Application process of industrial design from MYIPO

### Product Picture



Figure 2.a: The sample pictures of the Easy Lateral Radiographic Holder

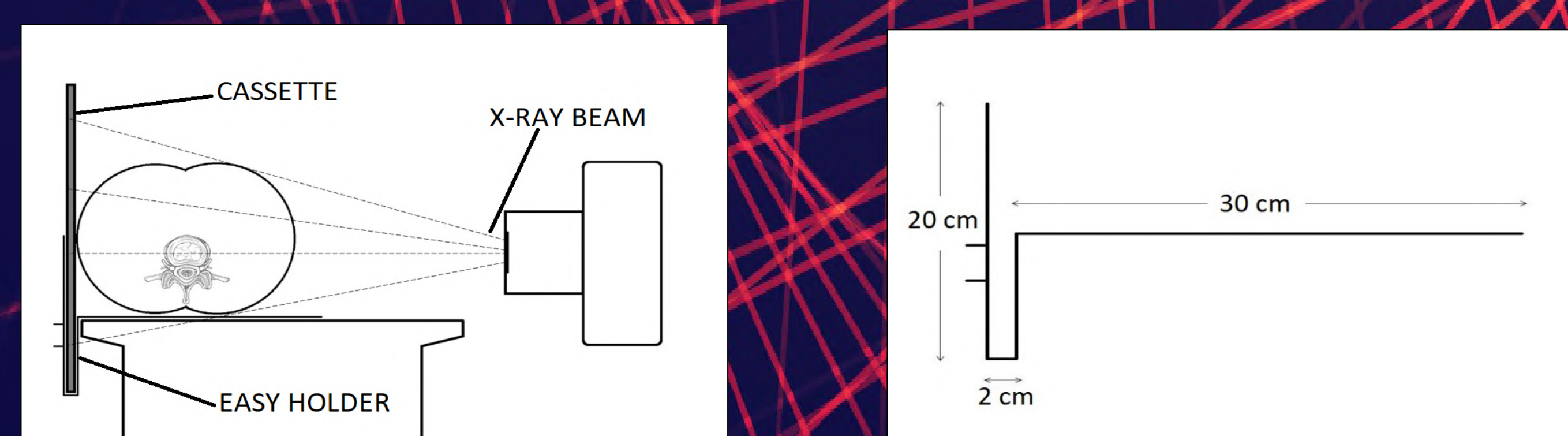


Figure 3: A basic design of the Easy Lateral Radiographic Holder when in use and the size dimension of the project.