Ergo™

Imaging System



DIGIRAD
BY CATALYST MEDTECH

Unparalleled

Clinical Flexibility and Imaging Quality

The Ergo™ Imaging System is Digirad's advanced solid-state large field-of-view (LFOV) general purpose nuclear medicine camera.

This single-head gamma camera is compact, lightweight, portable, and is designed to offer maximum clinical versatility. The Ergo is ideal for performing planar, gated, and dynamic nuclear medicine studies in imaging centers, outpatient service centers, and a variety of hospital settings.

The new standard of care



Distinguished by a sleek patient-friendly open gantry, a portable base, and multiple compound detector motions, the Ergo provides a virtually unlimited range of imaging possibilities. It affords greater opportunities and advantages for nuclear imaging in:

General Nuclear Medicine: The large field-of-view solid-state detector design offers the superior flexibility needed to image patients on stretchers, sitting up, or even in wheelchairs.



Pediatrics: The Ergo's compact design makes it easy to maneuver and image in tight spaces like pediatric patient areas and neonatal intensive care units. Also, imaging at the patient's bedside improves care and saves cost (and time) by eliminating the need to bring infants and nursing staff to the nuclear imaging department.



Surgery & Trauma: The Ergo's portability offers the freedom to image patients in the ICU, CCU, ER, OR, trauma units, or regular patient floors. The Ergo supports a wide variety of clinical protocols, leading to improved clinical outcomes for many oncological, general, and surgical procedures.

Women's Health: The thin, large field-of-view, narrow edge detector, and Breast Imaging Accessory enable the performance of state of the art molecular breast imaging (MBI) protocols.

In addition to the Ergo's™revolutionary large field-of-view solid-state detector and superior positional flexibility, it offers an array of conveniences that support the delivery of high-quality clinical results.

Compact Open Gantry

The small gantry footprint combined with a thinner, compact, and lighter detector create a less intimidating system, making it ideal for imaging claustrophobic and/or pediatric patients. The design's caudal and cephalic detector tilt capability further enhances the Ergo's imaging flexibility to easily image patients sitting up or lying down.

Lightweight Portable Design

The lightweight portable design and low profile wheelbase make it easy to maneuver. A narrow 27" width allows for easy entry into 30" doorways and simple movement through small hallways and around patient beds.



Swivel Acquisition and Viewing Workstation

A dedicated laptop acquisition workstation specially configured for Digirad imaging is mounted on a swivel base, allowing operation from either side of the camera. The operator control console provides comprehensive acquisition and viewing functionality and supports Modality Worklist compatibility. The user friendly interface also allows technologists to easily create and customize imaging protocols.

Breast Imaging Accessory

Your imaging options are vastly expanded with the Ergo™ Breast Imaging Accessory. This modular add-on offers a non-dedicated, cost effective option for molecular breast imaging. The breast stabilization assembly and breast mode software provide the ability to obtain standard mammographic views for direct x-ray correlation, and the solid-state breast-optimized MBI collimator provides superior, high-contrast images.



Other advantages include:

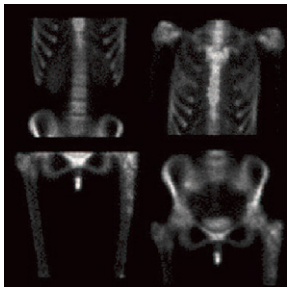
- Ergo's™ vertical range, which allows the seated patient to be positioned at a comfortable working height.
- The see-through shielded paddle, which reduces scatter while optimizing breast visualization.
- The oversized field-of-view, which eliminates tiling, reduces imaging time and improves diagnostic value.
- Foot controls, which allow for hands-free positioning and the ability to draw maximum breast tissue into the image.

Collimator Options

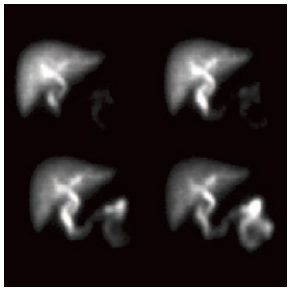
Six high performance collimator options (LEAP, LEHR, MEAP, PINHOLE, DIVERGING, MAMO) provide the capability for outstanding imaging quality for a wide range of procedures. Quick-release latch mechanisms and flip-up handles make changing collimators simple and fast. An optional collimator cart provides easy and convenient accessibility and storage for up to 5 collimators and one breast imaging accessory.



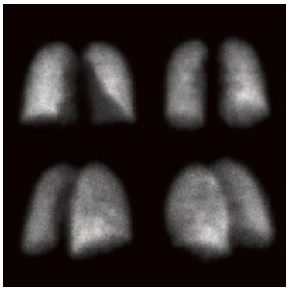
The heart of the Ergo™ is its large 12.25” x 15.5” field of view utilizing the most advanced solid-state detector technology in the industry. The system delivers unsurpassed performance specifications for general imaging with intrinsic spatial resolution of 3.25 mm, energy resolution of 7.9%, and count rate capabilities greater than 5 Mcps. The versatility of the Ergo is unmatched by other general imaging systems. It has six collimator options for use in various nuclear medicine applications including:



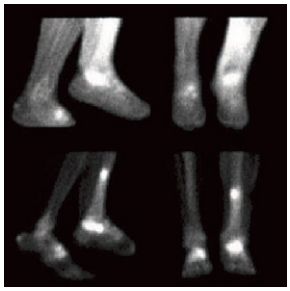
Bone Spot



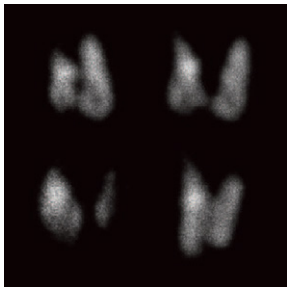
Gallbladder



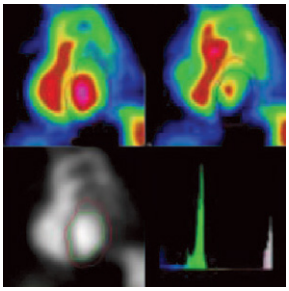
Lung Perfusion



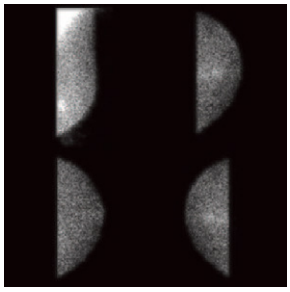
3 Phase Bone (2 of 3 Phases)



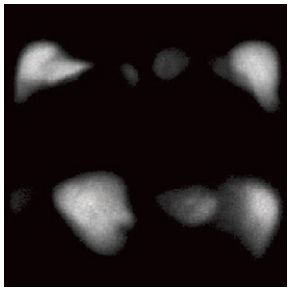
Thyroid



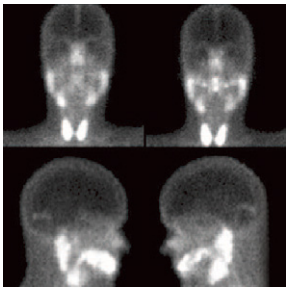
Planar Gated



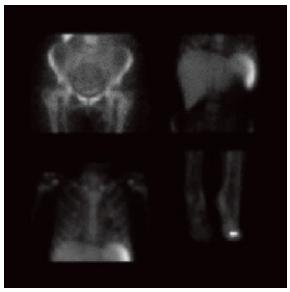
Molecular Breast Imaging



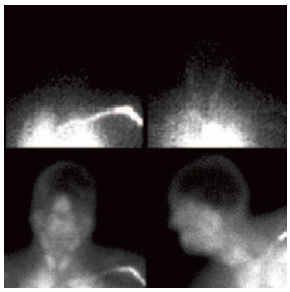
Liver



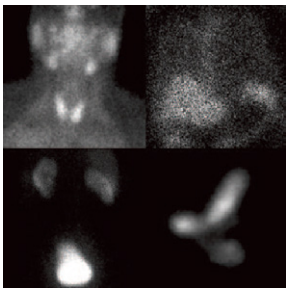
Salivary Gland



White Blood Cell



Brain Flow
(Flow and Static Images)



Miscellaneous Studies:
Parathyroid, Renal, Gastric Emptying, Indium, Gallium



A New Era in Nuclear Medicine

As we enter this new era of nuclear medicine, we're challenged to find innovative ways to improve quality, increase productivity, and reduce costs. Digirad has developed powerful solid-state detector technology that has transformed nuclear camera design by substantially raising overall performance and significantly lowering total lifecycle costs.

The Ergo™ large field-of-view imager represents an exciting new genre of general-purpose nuclear medicine cameras designed with a level of positional flexibility, clinical utility, and patient friendliness that is unmatched by any other general imaging system. We've taken breakthrough technology and applied it to achieve measurable improvements that positively impact every component of your healthcare system.



Technical Specifications

ERGO
IMAGING SYSTEM

DETECTOR SPECIFICATIONS

detector technology	solid state, segmented CsI (Tl) / silicon photodiode
exterior dimensions	42.1 x 38.4 x 10.2 cm [16.6 x 15.1 x 4.0 in]
useful FOV	39.6 x 31.1 cm [15.6 x 12.2 in]
detector element size	3 x 3 mm
energy range	50-350 keV
collimator options	LEAP, LEHR, MEAP, PINHOLE, DIVERGING, MBI

SYSTEM PERFORMANCE

simultaneous dual isotope acquisition	yes
acquisition matrix	64 x 64, 128 x 128, 256 x 256, 512 x 512
maximum emission count rate, cps 1	> 5M
intrinsic spatial resolution	3.3 mm
intrinsic energy resolution, FWHM, 140 keV	7.9%
intrinsic spatial linearity	0.3 mm (absolute)

1 The maximum count rate reached with 34mCi Tc-99m source in the open window was 5M cps. The fold-over point was not yet reached.

DETECTOR/YOKE MOTION

rotation	
detector	180°
yoke	360°
arm rotation	390°
vertical position	
maximum	152.4 cm [60 in]
minimum	45.7cm [18 in]
maximum reach	
parallel to the floor (looking up/down)	92.2 cm [36.3 in]
perpendicular to the floor (looking back)	66 cm [26 in]

COLLIMATOR SPECIFICATIONS

	LEAP	LEHR	MEAP	PINHOLE	DIVERGING
isotope	Tc-99m	Tc-99m	In-111, Ga-67	Tc-99m, I-123	Tc-99m
useful energy range (keV)	50-170	50-170	50-350	60-160	50-170
hole shape	hex	hex	hex	round	hex
septal thickness (mm)	0.2	0.2	1.0	n/a	0.3
hole diameter (mm)	1.5	1.5	2.3	4, 6, and 8	1.9
hole length (mm)	23	30	30	218	30
sensitivity @ 10cm (cpm/uCi)[2]	250*	132*	153^	210*	106*
system spatial resolution @ 10cm w/o scatter (mm)[2]	10.3	7.4	11.2	10.0	10.8
focal length @ exit surface (mm)	n/a	n/a	n/a	n/a	350
diameter at base of cone (mm)	n/a	n/a	n/a	285	n/a
weight (lbs)	26	34	68	38	40
type	parallel	parallel	parallel	pinhole	diverging

2 All spatial resolution and sensitivity numbers are typical values. Sensitivity numbers within +/-7% of spec are acceptable.
* Sensitivity measured using 16% Tc-99m window.
^ MEAP sensitivity calculated using Ga-67 with 86-100 keV and 170-200 keV windows.

Technical Specifications

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BREAST IMAGING ACCESSORY

	MBI
isotope	Tc-99m
useful energy range (keV)	130-152
hole shape	hex
septal thickness (mm)	0.3
hole diameter (mm)	1.9
hole length (mm)	22
sensitivity @ 10cm (cpm/uCi)[3]	466
system spatial resolution @ 6 cm w/o scatter (mm) [2]	8.9
focal length @ exit surface (mm)	n/a
collimator weight (lbs)	30
accessory weight (lbs)	36
type	parallel
accessory compression range	2-19 cm [0.8-7.5 in]
stabilization pressure	8 lbs

2 All spatial resolution and sensitivity numbers are typical values. Sensitivity numbers within +/-7% of spec are acceptable.
3 Sensitivity measured using 130-152keV Tc-99m window.

ENVIRONMENTAL/OPERATION REQUIREMENTS

system weight	320 kg [705 lbs]
height	179.1cm [70.5 in]
width	74 cm [29 in]
length	170 cm [67 in]
minimum room size	8 x 8 ft
floor clearance	8.9 cm [3.5 in]
power requirements	15A @ 120VAC, 60Hz, 7.5A @ 240VAC, 50/60Hz
operating temperature range	18-29° C [65-84° F]
relative operating humidity	30-75%
architectural modifications	none required
environmental storage	5-50° C [41-122° F]
storage humidity	10-90% (non-condensing)

COLLIMATOR CART (OPTION)

length	83.8 cm [33 in]
width	58.4 cm [23 in]
height	119.4 cm [47 in] without accessories
weight	116.6 kg [257 lbs] without collimators or accessories
storage capacity	five collimators plus one breast imaging accessory

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Digirad is a Catalyst MedTech Company

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MEDTECH

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