

MONA
orthopedic MRI system

we see, we care



TIME MEDICAL
SYSTEMS



TIME MEDICAL SYSTEMS

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Vision

Time Medical (TM) pursues global scientific, technological and clinical excellence to develop the world's most sensitive and accurate MRI systems for early detection of major illnesses. TM's focus is to develop the Next Generation MRI, which is poised to completely transform the MRI industry!

We See, We Care

TM aligned with World Health Organization (WHO) visions:

- A world in which everyone can live healthy, productive lives
- Putting people first
- Placing health at the centre of the global agenda
- Engaging countries and strengthening partnerships by deploy TM innovation technology to develop AAA (Affordable, Accessible, Advanced) medical devices for the world's 55% population whom didn't have access to general healthcare.

TM will continue to break new ground with innovative technology, patents and market ready MRIs and related technology that will meet the 21st century needs of the Global Community.

MONA
orthopedic MRI scanner





MONA

TIME MEDICAL Systems



May 2007: Columbia University (New York, USA) grants TIME MEDICAL Systems the exclusive right to develop and commercialize HTS Technology for its new line of MRI Scanners.



June 2010: US Patent Office issues patent to TIME MEDICAL Systems for the world's first HTS MRI Scanner.



July 2010: Frost & Sullivan awards TIME MEDICAL Systems the coveted "Innovation of the Year" for its patented **HTS Technology**.



May 2011: The Coalition for Imaging in Biomedical Research (CIBR) welcomes TIME MEDICAL Systems as its newest member and facilitates an HTS Technology demonstration for the NIH Director in Washington, DC.



Aug 2011: FDA 510(k) clearance for PICA's 33mT/m gradient upgrade.
Sept 2011: FDA 510(k) clearance for PICA's HTS RF Coil Technology.
Aug 2011: TIME MEDICAL received the CE certification for PICA.



May 2013: Time Medical's first PICA installation in USA received ACR Accreditation for MRI which sets the approval for MRI providers to receive reimbursement from Medicare, and other payors, for their MRI services in the US.



Apr 2016: Time Medical participated in the Inventions Geneva 2016 with the NEONA - World's First Neonatal MRI System and won the Prix de l'Etat de Genève award which is also the highest award among the medical class.



Dec 2017: First PICA MRI System installation in South Africa, Time Medical Systems completed the first PICA MRI installation on African soil, in Gauteng, Johannesburg, South Africa which marks the beginning of a new page for Time Medical in the African market.



mona
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Features & Benefits



Strong Gradients – at 25 mT/m & Slew Rate of 50 T/m/s, MONA has very strong gradient strength among all other low field MRI systems.



Wider Range of Clinical Applications – More than just an Orthopedics MRI system (Brain and Body imaging also available)



PRODIVA drives user-friendly clinical workflow during patient set-up, scanning and data management.



High throughput – Each scan requires only about 20 minutes, MONA can provide service to more patients.



Small footprint – MONA only requires a small shield room of 4 x 4 m



Large opening for body imaging for patients that can be fit in the small body coil.

More than an orthopedics MRI system, it can also perform brain scanning.



Product Specifications

Magnet System

- Type: Permanent, active shims
- Material: Neodymium Ferrite Boron (NdFeB)
- Field Strength: 0.2 Tesla
- Opening: 300 mm
- Fringe Field: 5 Gauss line from magnet isocenter 1.4 m
- Size with chassis: 1718 x 1357 x 1674 mm (L x W x H)
- Field Stability: < 0.2 ppm/hr
- Magnet Weight: 5,500 kg / 12,100 lbs

Gradient System

- Amplitude: 25 mT/m
- Rise Time: 0.5 ms
- Slew Rate: 50 T/m/s

RF System

- Frequency: 9 MHz \pm 200 kHz
- RF Power: 6000 W peak rms, 600 W average
- Image BW: 5 kHz – 3.3 MHz
- Preamp Noise Figure < 0.5 dB
- Pre-amplifier integrated in all receiving coils
- Automatic receiving coil recognition

RF Receiver Coils

- Quad Shoulder Coil
- Quad Wrist Coil
- Quad Knee Coil
- Quad Foot/Ankle Coil
- Quad Head Coil
- Quad Neck Coil*
- Quad Spine Coil (S)*

* Optional

System / Power Supply Cabinets

- Cooling: Air cooled with internal fans
 - Cooling Thermal Loading: 2.8 kW – 5.85 kW
 - Line Voltage: 380 Vac 3-phase, neutral \pm 10%
 - AC power requirements: 32A / 21 kVA
 - Dimensions (LWH): 910 x 610 x 1735 mm / 670 x 820 x 970 mm
 - Unit weight: 426 kg (939 lbs) / 390 kg (860 lbs)
-

Computer System

- Host Computer: Dell™ Windows based PC
- OS: Microsoft Windows
- Imaging Software: Prodiva MRI Platform with Patient Flow Technology
- Data Archive: DVD RW 4.7 GB
- Display: 24" HD LCD Monitor
- Data Transfer & Handling (HIS/RIS): DICOM 3.0
- Printing Support: DICOM Print, All Windows Printer & PDF

Pulse Sequences

- SE 2D & 3D
- GRE 2D & 3D
- FLASH 2D & 3D
- FSE 2D
- FSE 3D / HASTE
- FLAIR 2D
- Fast-FLAIR 2D
- STIR 2D
- IR-FSE 2D (T2 STIR, PD-STIR)
- 3PT DIXON SE 2D*
- 3PT DIXON GRE 2D*

* Optional

Imaging Parameters

- Min / Max Phase Matrix: 64 / 512
- Min / Max Frequency Matrix: 64 / 512
- Bandwidth: 5 kHz – 3.3 MHz
- Rectangular FOV (increment in % in full FOV): 0.1%

Image Reconstruction

- Multithreaded reconstruction
- 2D > 1000 images/s, 256 x 256
- 3D > 200 planes/s, 256 x 256 x 64

Image Visualization

Features: Visualization with auto Window/Level, pan, zoom, rotate, flip, multiple image display, ROI, annotate, measurements, cross series marker, color mapping, image analysis, reformat, real-time MIP, CINE, multiple viewport.

Site Planning

Specification	Magnet Room	Equipment Room	Control Room
Recommended room size (inside dimensions) *	4 x 4.5 m (13.1 x 14.8 ft)	3x3 m (9.8 x 9.8 ft)	3x4 m (9.8 x 13.1 ft)
Minimum ceiling height	3m (9.8 ft)	2.8 m (9.2 ft)	no requirement
Floor requirements	antistatic, level	antistatic	antistatic
Total Floor Loading	6 kPa 125.3 lbs / sqft	-	-
Floor Leveling	5 mm / 3 m	-	-
RF shielding	90 dB attenuation over 10 – 100 MHz	not required	not required
Magnetic field shielding	depends on site	not required	not required
Power outlets	3 x 110 Vac or 220 Vac	3 x 110 Vac or 220 Vac 380 Vac 3-phase, neutral±10%	at least 6 x 110 Vac or 220 Vac
Air conditioning	15 kW	3 kW	3 kW
Humidity	40%-70% without condensation	40%-70% without condensation	40%-70% without condensation
Network outlets	No requirement	1 (directly connected to Control Room)	1 (directly connected to Equipment Room)



Graphical User Interface

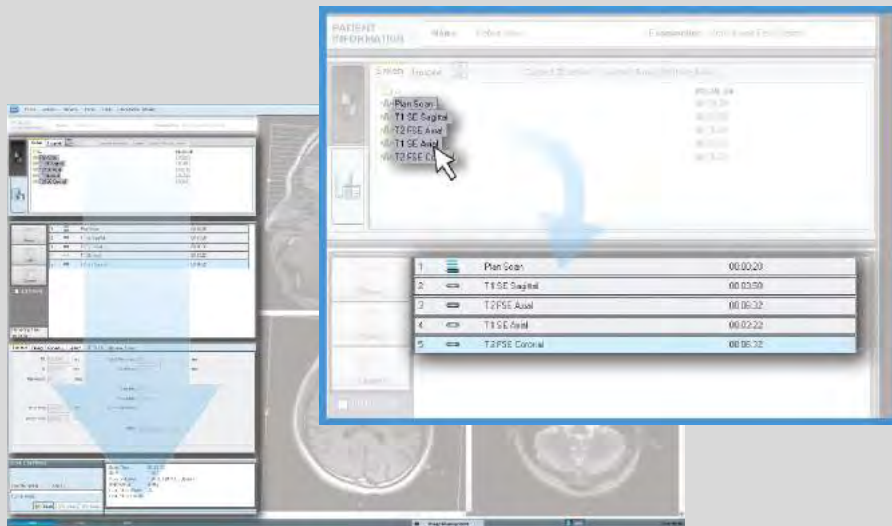


PRODIVA

The comprehensive and user-friendly GUI with embedded clinical workflows.



Efficient workflow from start to finish



Built-in optimized scan protocols with simple drag-and-drop workflow to initiate scanning.



PRODIVA Cloud teleradiology platform allows image access for reporting anywhere, anytime.



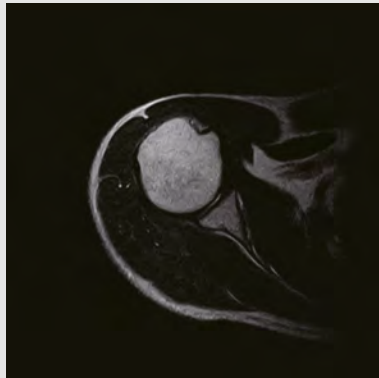
IMAGE GALLERY



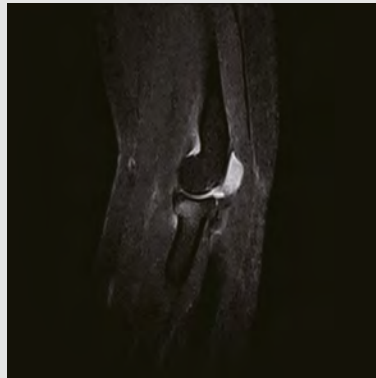


MSK Imaging

The Ortho Suite provides a wide variety of optimized protocols for extremities imaging.



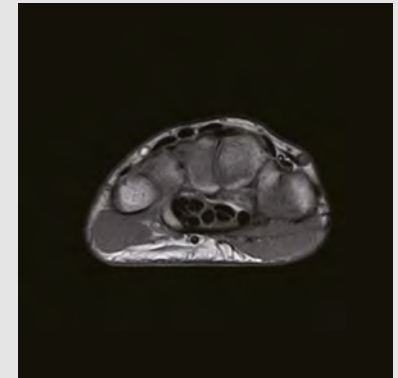
T2 FSE



PD STIR



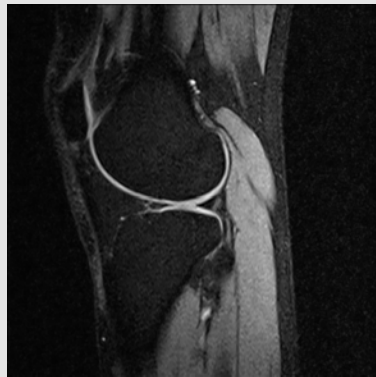
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T1 SE



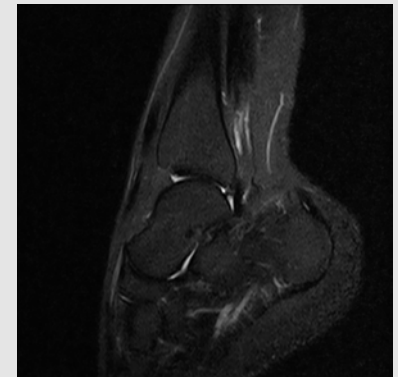
T2 FSE



SE DIXON



T1 SE

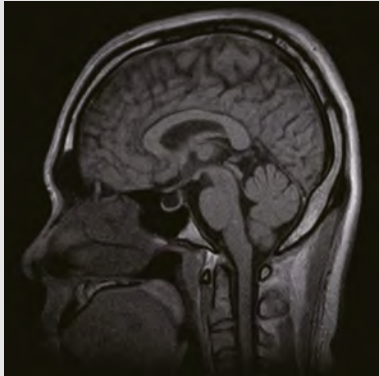


IR-FSE

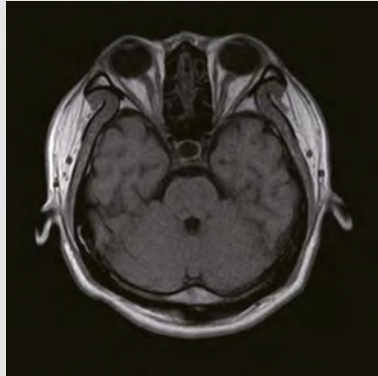


Neuro Imaging

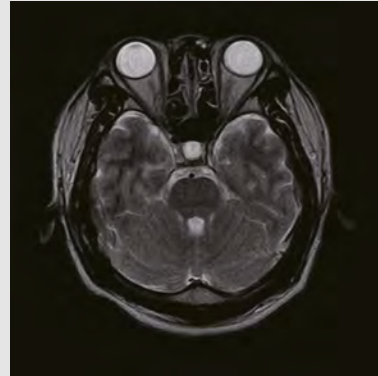
The Neuro Suite provides high resolution protocols for better image quality as well as short scan time protocols for patients that are not cooperative but still with good image quality.



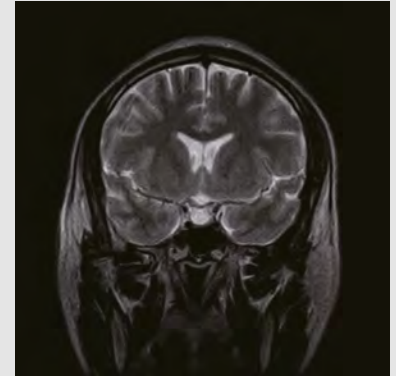
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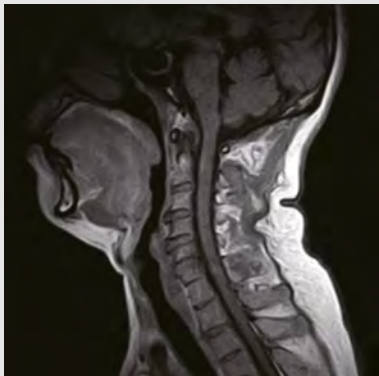
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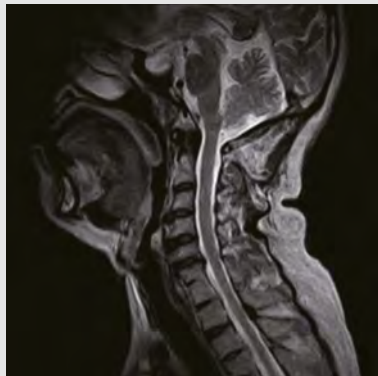
T2 FSE



T2 FSE



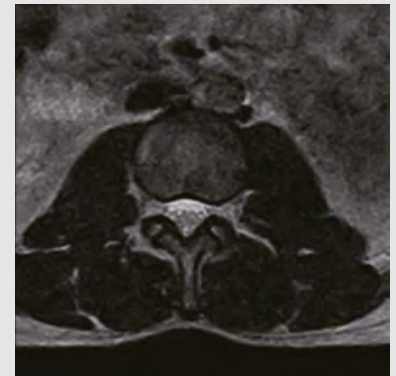
T1 SE



T2 FSE



T2 FSE



T2 FSE

TIME MEDICAL SYSTEMS

Time Medical U.S.A.

3560 Dunhill Street, Suite #130
San Diego, CA 92121
USA

Time Medical Hong Kong

G/F, Bio-Informatics Centre
No. 2, Science Park West Avenue
Hong Kong Science Park, Shatin, N.T.
Hong Kong

For more images and information,
please visit www.time-medical.com or
contact us at sales@time-medical.com

Time Medical Indonesia

Graha Mustika Ratu Lantai 10,
Jl. Gatot Subroto Kav, 74-75,
Kel. Menteng Dalam, Kec. Tebet
Jakarta Selatan 12870
Indonesia

Time Medical Shanghai

4/F, Block B, 563 Songtao Road
Zhangjiang Hi-Tech Park
Pudong, Shanghai, 201203
China



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