MAGNETIC RESONANCE IMAGING

IPEM TRAINING PORTFOLIO

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SEPTEMBER - DECEMBER 2003

ACKNOWLEDGEMENTS

I am most grateful to Dr. Steve Gandy for his supervision, guidance and introduction to Magnetic Resonance Imaging.

A special thank you to Dr. R. Steve. Nicholas for sharing his experience of the Grade 'A' training program.

I would also like to thank Trudy McLeay, Patricia Martin and Lynsay Allan for freely giving of their time to assist me in the practical aspects of MR imaging.

I am grateful to Dr. Graeme Houston for his informative discussions.

I would also like to acknowledge all other staff in the MRI Suite who are not specifically mentioned here.

ACKNOWLEDGEMENTS

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ABBREVIATIONS

AC	Number of Acquisitions
AMP	Amplifier
BW	Bandwidth
CE-MRA	Contrast Enhanced MRA
CE-MRR	Contrast Enhanced Magnetic Resonance Renography
CNR	Contrast to Noise Ratio
CoV	Coefficient of Variance
CSF	Cerebrospinal Fluid
DESS	Dual Echo Steady State
ECG	Electrocardiogram
EPI	Echo Planar Imaging
FA	Flip Angle
FATSAT	Fat Saturation
FDA	Food and Drug Administration
FE	Frequency Encode
FID	Free Induction Decay
FISP	Fast Imaging with Steady State Precession
FLAIR	Fluid Attenuated Inversion Recovery
FLASH	Fast Low Angle Shot

ACKNOWLEDGEMENTS

FoV	Field of View
FSE	Fast Spin Echo
FT	Fourier Transform
GE	Gradient Echo
GRASS	Gradient Recalled Acquisition in the Steady State
GX	X Gradient
GY	Y Gradient
GZ	Z Gradient
HASTE	Half Acquisition Turbo Spin Echo
IMRSER	Institute for Magnetic Resonance Safety Education and Research
IR	Inversion Recovery
MARIBS	Magnetic Resonance in Breast Imaging
MDA	Medical Devices Agency
MEDIC	Multiple Echo Data Image Combination
MIP	Maximum Intensity Projection
MRA	Magnetic Resonance Angiography
NoS	Number of Slices
NRPB	National Radiological Protection Board
PC-MRA	Phase Contrast MRA
PDW	Proton Density Weighted
PE	Phase Encode
PFI	Private Finance Initiative
PNS	Peripheral Nerve Stimulation
PPM	Parts Per Million
PSIF	FISP reversed
QA	Quality Assurance
RAS	Renal Artery Stenosis
RF	Radiofrequency
RFoV	Rectangular FoV
ROI	Region of Interest
RVD	Renovascular Disease
SAR	Specific Absorption Rate
SE	Spin Echo
SL	Slice Thickness
SNR	Signal to Noise Ratio
SPGR	Spoiled Gradient Recalled Echo
SR	Slew Rate
SSFP	Steady State Free Precession
STIR	Short Tau Inversion Recovery
T	Tesla
T1	Longitudinal Relaxation Time
T1W	T1 Weighted
T2	Transverse Relaxation Time
T2W	T2 Weighted
TA	Acquisition Time
TE	Echo Time
TI	Inversion Time
TOF	Time of Flight
TR	Repetition Time
TSE	Turbo Spin Echo
VENC	Velocity Encoding
VIBE	Volume Interpolated Breathold Examination

ACKNOWLEDGEMENTS

VNS Vagal Nerve Stimulation

ACKNOWLEDGEMENTS

1 Training Overview

A detailed plan for my MRI rotation is provided in Appendix A. I spent approximately twelve weeks in the MRI Department at Ninewells Hospital in addition to one week spent at the Radiology Department at Perth Royal Infirmary assisting in the acceptance testing of a new GE Signa Excite 1.5T scanner.
I was able to do 'hands on' experimental MRI scanning at Ninewells on six occasions through the duration of the placement. Two of these sessions covered use of equipment, two sessions covered quality assurance and two sessions involved supervised patient scanning.
Progress meetings with my MRI Training Supervisor were held every Friday morning, with ad-hoc meetings held as required. As per the IPEM requirements, I met with my Training Coordinator at the beginning, midpoint and end of my training. Monthly meetings were also arranged with the Director of Medical Physics at Ninewells.

1 Required competences for Magnetic Resonance Imaging

My MRI training plan was based on the list of required core and subject competences as contained in the IPEM Training Scheme Prospectus September 2002, pages 16-17 and 24-25 respectively.

2 IPEM Competency Look-Up Table

Table 1 below is a cross reference of required competencies and location in this portfolio.

Subject Competency	Page Numbers
MR 1.1	2-11
MR 1.2	9-10, 63, 52-62
MR 1.3	63-73
MR 1.4	63-65
MR 1.5	43-45
MR 1.6	81-84
MR 1.7	2-3, 74, 96-103
MR 2.1	46-62
MR 2.2	46-62
MR 2.3	46-62
MR 3.1	66-74
MR 3.2	66-74
MR 3.3	81-90
MR 3.4	28-32
MR 3.5	33
MR 3.6	29-30
MR 3.7	23-27

Table 1: IPEM Subject Competency Look-up Table