# MRI Procedure & Image Processing Sequence



2: Load Patient Information



3: Complete Safety Checklist



14: Complete Procedure Log



15: Procedure Completed



9: Process Raw Images



10: Generate DICOM Images

Procedure System

MRI Equipment

Image Processor

PACS System

Notification Service

## MRI Technician

1: Start MRI Procedure

4: Validate Safety Requirements

5: Initialize Equipment

6: Equipment Ready Status

7: Configure Scan Parameters

8: Start Image Acquisition

11: Store Images in PACS

12: Update Procedure Status

13: Notify Radiologist

Alternative: Safety Check Failed

* Display safety violation
* Stop procedure initiation
* Log safety incident

Alternative: Equipment Malfunction

* Alert technician
* Switch to backup system
* Reschedule procedure

# Medical Report Generation & Approval Sequence



Report System

DICOM Viewer

Template Engine

Quality System

Digital Signature

## Radiologist

2: Load Patient Images

3: Display DICOM Images



1: Access Report Generation

4: Show Images to Radiologist



6: Select Report Template

7: Load Report Template

9: Generate Draft Report



5: Analyze Images



8: Enter Clinical Findings

10: Return Draft Report

11: Review Draft Report

12: Submit for Quality Review

13: Quality Check Passed

14: Apply Digital Signature



15: Report Finalized

Alternative: Quality Review Failed

* Return for revision
* Highlight issues
* Request corrections

Alternative: Image Quality Issues

* Flag poor image quality
* Request re-scan
* Notify technician

# Clinical Workflow Management Sequence

2: Display Workflow Dashboard



Workflow System

Patient Database

Scheduling System

Equipment Monitor

Audit System

## Clinical Staff



1: Login to Clinical System

3: Request Patient Queue

4: Get Scheduled Patients

6: Display Patient Queue

8: Load Patient Medical History



9: Check Equipment Status

5: Return Patient List

10: Equipment Available



7: Select Patient for Processing



11: Start Clinical Procedure



14: Procedure Status Updated



12: Update Patient Status

13: Log Activity

Alternative: Equipment Unavailable

* Display equipment status
* Suggest alternative times
* Queue patient for next slot

Alternative: Patient Not Ready

* Update patient status
* Reschedule procedure

- Notify scheduling system

# System Administration & Security Sequence

Admin Console

User Manager

Security Service

Encryption Engine

Backup Service

## System Admin



1: Login to Admin Console

2: Authenticate Admin



6: Create/Update User

3: Admin Authenticated

7: Apply Security Policies

4: Display Admin Dashboard



5: Manage User Accounts

8: User Account Updated



10: Configure Encryption Keys

9: Enable Data Encryption

11: Encryption Enabled

12: Schedule System Backup



13: Backup Process Started

14: Generate Security Audit



15: Security Audit Report

Alternative: Authentication Failed

* Display login error
* Lock account after attempts
* Log security incident

Alternative: Backup Failed

* Alert administrator
* Retry backup process
* Generate failure report