The Best Timed Prostate Diagnostic Pathway

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Chair GM Cancer Urology Board
Project team
Challenge

To define a timely, optimised diagnostic pathway which is evidence based, innovative and deliverable in real time in today's NHS ........
Background – Prostate Cancer

- Commonest male cancer
- 46,500 new cases in the UK each year
- Incidence 150 per 100,000
- 24% of all new cases of cancer diagnosed in men in the UK
- 11,200 men die from prostate cancer each year in UK
- Accounts for 14% of all male cancer deaths each year
- 84% of men with prostate cancer survive > 10 years
- Significant health economic burden
Background – Prostate Cancer - Manchester

- Greater Manchester Cancer Network – 3.2 million population
- In GM ~ 9000 2WW Urology referrals each year
- 60% are for suspected prostate cancer (5,400 2WW refs)
- ↑ 15% each year since 2013/2014
- Challenges of 31/62 day pathway
- Challenges of meeting the patient’s needs within the pathway
Background Prostate Cancer

Promis trial - mpMRI triage tool
Lancet Jan 2017
27% can avoid biopsy
5% reduction in clinically insignificant cancers

mpMRI should become an integral part of the diagnostic pathway
Vanguard Prostate Cancer Team

- **Urology**
  - Professor NW Clarke
  - Mr Jeremy Oates
  - Mr John Hines
  - Mr David Hrouda
  - Mr Satish Maddineni
  - Miss Caroline Moore

- **CNS**
  - Helen Johnson
  - Netty Kinsella

- **GP**
  - Dr Sarah Taylor
  - Dr Amanda Myerscough

- **Radiology**
  - Dr Maryna Brochwicz-Lewinski
  - Dr Thomas Hambrock
  - Dr Navin Ramachandran
  - Dr Shonit Punwani

- **Pathology**
  - Dr Mike Scott

- **Patient Reps**
  - Mike Thorpe
  - Patrick Fahy

- **GM Commissioner**
  - Tracey Wright

- **GM Vanguard Lead**
  - Jenny Scott

- **National Vanguard Lead**
  - Dr Kathy Pritchard-Jones

- **Vanguard Managers**
  - James Leighton
  - Jake Goodman

- **Other**
  - Detailed consultation with oncologists, radiologists, microbiologists and cancer & data managers etc.
Mapped current pathways

Significant variation across Vanguard partners

Significant variation in Manchester

TRUS Bx standard of care in GM

mpMRI utilisation non-standardised

mpMRI utilisation often inappropriate

Many institutions struggling to meet 31/62 day targets

"Adding in MRI into pathway would be disastrous for cancer targets"
Ultimate Goal

- Introduction MRI into pathway
- Reduce number needing biopsy
- Reduce morbidity / sepsis rates
- Target abnormal areas
Key Enablers

Robust information on referral

Daily triage

Rapid access to diagnostics (+ capacity)

Appropriately skilled staff

Staff training

Appropriate hardware / software

Robust, timely, safe patient transfers (Networked solutions)
Current UK Practice

- GP Referral
- OPD review
- Repeat PSA
- TRUS Bx
- mpMRI
- Template biopsy
- SMDT
- MRI
- Template biopsy
Breakout Session 1

Key steps

- Robust MDS for referral
- Daily triage
- Pathways
Patient presents to GP

Review to include

1. PSA
2. MSU/Urinary Dipstick
3. DRE

Mandated information for the referral must include

1. Demographic details
2. Age specific PSA results
3. Negative MSU result or urinary dip test
4. Performance status
5. Weight and BMI
6. Medication History
7. Anti-coagulant status
8. U&E / EGFR for contrast agents
9. Familial history of prostate or Breast cancer
10. MRI scanning exclusion criteria assessment (standardised)

Other enabling processes to be provided -

1. For patients >80 years of age an assessment using the G8 screening tool or equivalent such as ECOG
2. Patient informed, or offered an information leaflet, so that they have an understanding that they are on a cancer pathway

Notes –

Age related assessment

1. An example of the G8 tool can be found at https://www.medicalalgorithms.com/g8-screening-tool and the ECOG tool at http://ecog-acrin.org/resources/ecog-performance-status

MRI exclusion

1. Pacemaker
2. BMI >50 may exclude MRI
3. Bilateral hip replacements not necessarily an exclusion criterion (local protocols)
Triage

- Triage steps

  Daily Triage

  Senior clinician / CNS

  *If MSU +ve with ↑PSA → step off 2WW (Ix but not as 2WW)*

If PSA borderline then consider repeat PSA prior to review

Rectal swab (local guidance)
Overview

Cancer Vanguard

Daily Triage

GP 2WW Referral

Clinic review
(same day MRI)

Daily Triage

MRI contra-indicated

Attend 2WW clinic

MRI

Abnormality on MRI

Anterior Lesion

Targeted TP Bx (TRUS if accessible)

OPD for results

Day 14 / 21 SMDT

Non-Anterior lesion

Prostate Bx (TP/Trus)

No abnormality on MRI

OPD Clinic Review
PSAD (0.15)
Prostate Bx vs PSA monitoring

Close Pathway
Pathway Without Scan

- MR contra-indicated/No immediate MRI
- Attend 2WW clinic
  - Stratify risk (PSAD > 0.15)
  - Consider Prostate Bx
  - Staging and diagnostics
- OP Clinic for results
- Normal findings
  - Advise and close pathway
- Defined GP re-referral criteria
- SMDT for review & planning
Pathway with scan (1)

**Triage**

- mpMR scan undertaken and reported

- Non-Anterior Lesion
  - OP Clinic for review
    - Prostate Bx (targeted + standard)

- OP clinic for results
  - +ve Biopsy
  - +/- staging
  - PSA surveillance

- (SMDT) Review if P4/5 lesion with -ve histology (audit)

- Normal findings
  - Advise and close pathway

- SMDT for review & planning

**Day 14**

**MRI** – protocolised
**Uro-radiology reporting** – standardised
**Standardised software**
**Pictorial reporting**
**Min numbers reported**

**Uropathologist reporting**
**Histology results within 5 working days**
# Prostate mpMRI

*Protocolised mpMRI*

*Contrast for DWI*

*Uroradiologist reporting – standardised*

*Standardised software*

*Pictorial reporting*

*Volume reported*

*Minimum numbers reported per annum by uro-radiologist (50-150?)*

*MR Consensus meeting 2017*

*If equivocal MRI → double reporting*

*Robust audit of discrepancies between MRI and histology*
Pathway with a scan (2)

**Triage**

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**mpMR scan undertaken and reported**

**Suspicious anterior lesion**
*(P4/5 or P3 with PSAD>0.15)*

**OP Clinic for review**
- Targeted TP Bx / Trus Bx
- Pre-op assessment

**Attend for Bx**

**OP clinic +/- staging**

**Radiology guidance - TP / TRUS Pictorial display**

**Normal findings**
Advise and close pathway

**Day 21**

**SMDT for review & planning**

**(SMDT) Review if P4/5 lesion with -ve histology (audit)**
Pathway with a scan (3)

**Triage**

- mpMR scan undertaken and reported

**Day 14**

- SMDT for review & planning

**Consensus that reasonable to bx whilst unit on MR learning curve**

**No lesion reported**
- (P1/2 or P3 with PSAD<0.15)
- OP Clinic for review
  - Clinical review
  - (PSAD > 0.15 → Bx)
  - Counselling & advice
  - Bx vs discharge to GP
  - SMDT review if required

**Close Pathway**
- (Detailed re-referral guidance for GPs)
Pathway Post SMDT review

**SMDT for review & planning (D14/21)**

**ADT/Systemic**
- OP clinic
  - Review in clinic
  - Discuss options & plan
  - Commence ADT

**Pre-op & list**
- Admit & treat
- Close Pathway

**Surgery / Focal Therapy**
- OP clinic
  - Review in clinic
  - Discuss options & plan
  - Refer for surgery

**Plan & list**
- Attend & treat
- Close Pathway

**Radiotherapy ± ADT**
- OP clinic
  - Review in clinic
  - Discuss options & plan
  - Refer for Rx

**Close Pathway**

**Surveillance**
- OP clinic
  - Review in clinic
  - Discuss options & plan
  - Advise on PSA

**Close Pathway**

Day 62
# PSA Reference Ranges

NICE vs BAUS (updated Nov 2017)

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<th>Age</th>
<th>NICE</th>
<th>BAUS</th>
<th>Proposed</th>
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<tr>
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<td>≥ 2</td>
<td>≥ 2.7</td>
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<td>50 - 59</td>
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<td>≥ 3.9</td>
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<td>≥ 5</td>
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<td>70 - 79 ≥ 7.2</td>
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<td>75 - 80 ≥ 7.2</td>
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<td>80 +</td>
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<td>80+ clinical discretion</td>
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