Reducing delays in the bladder cancer pathway

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Consultant Urologist, Royal Surrey County Hospital
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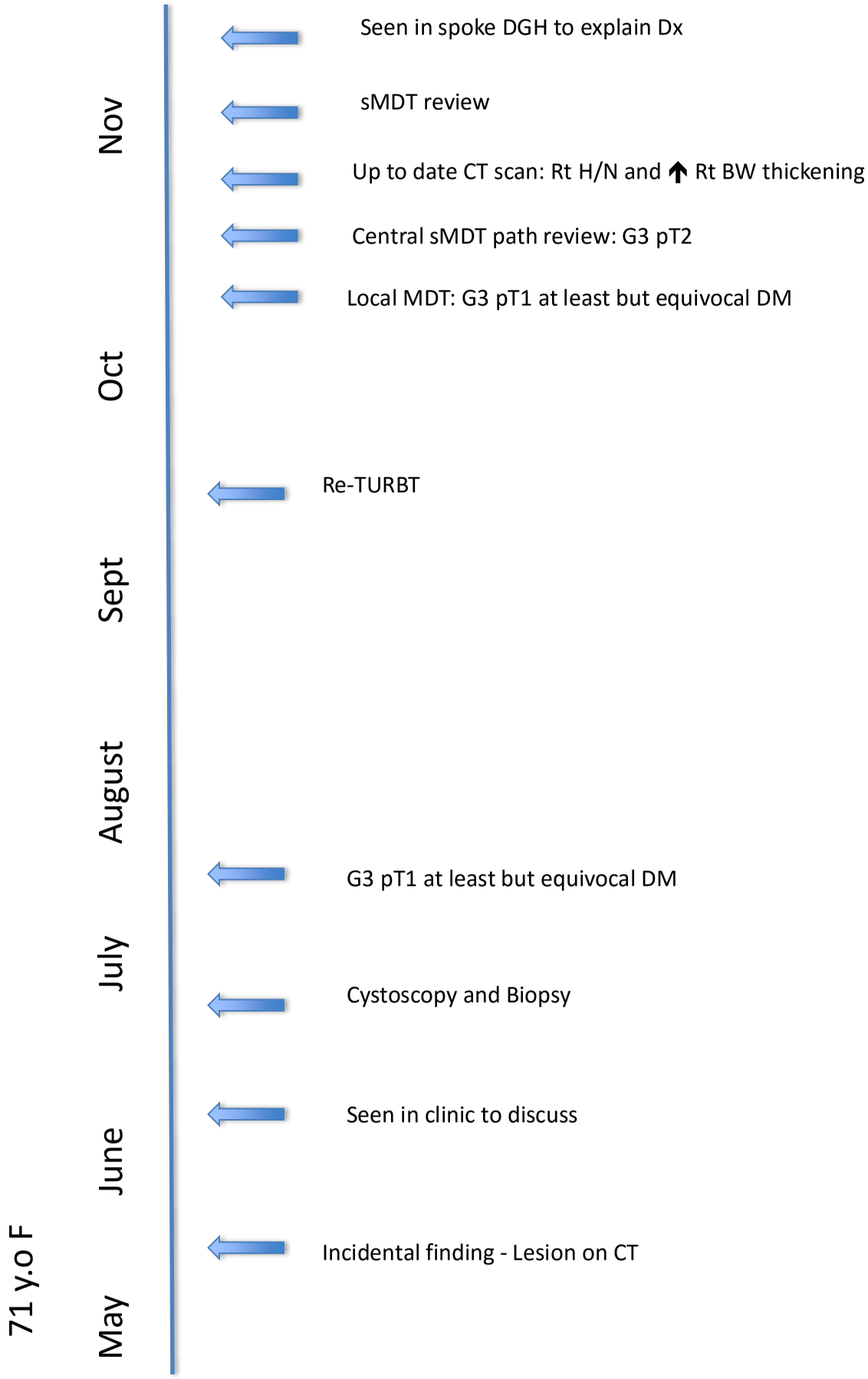
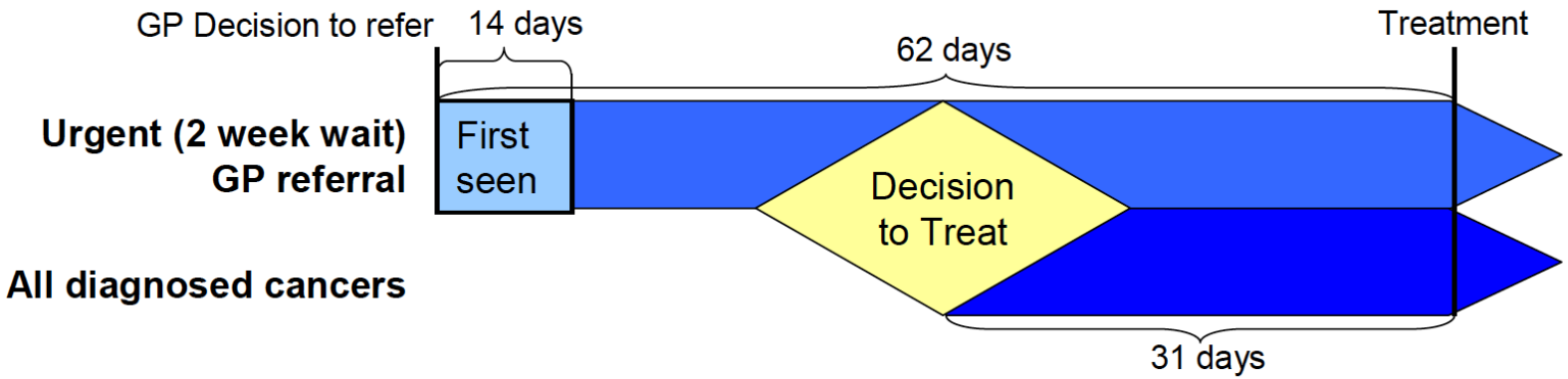
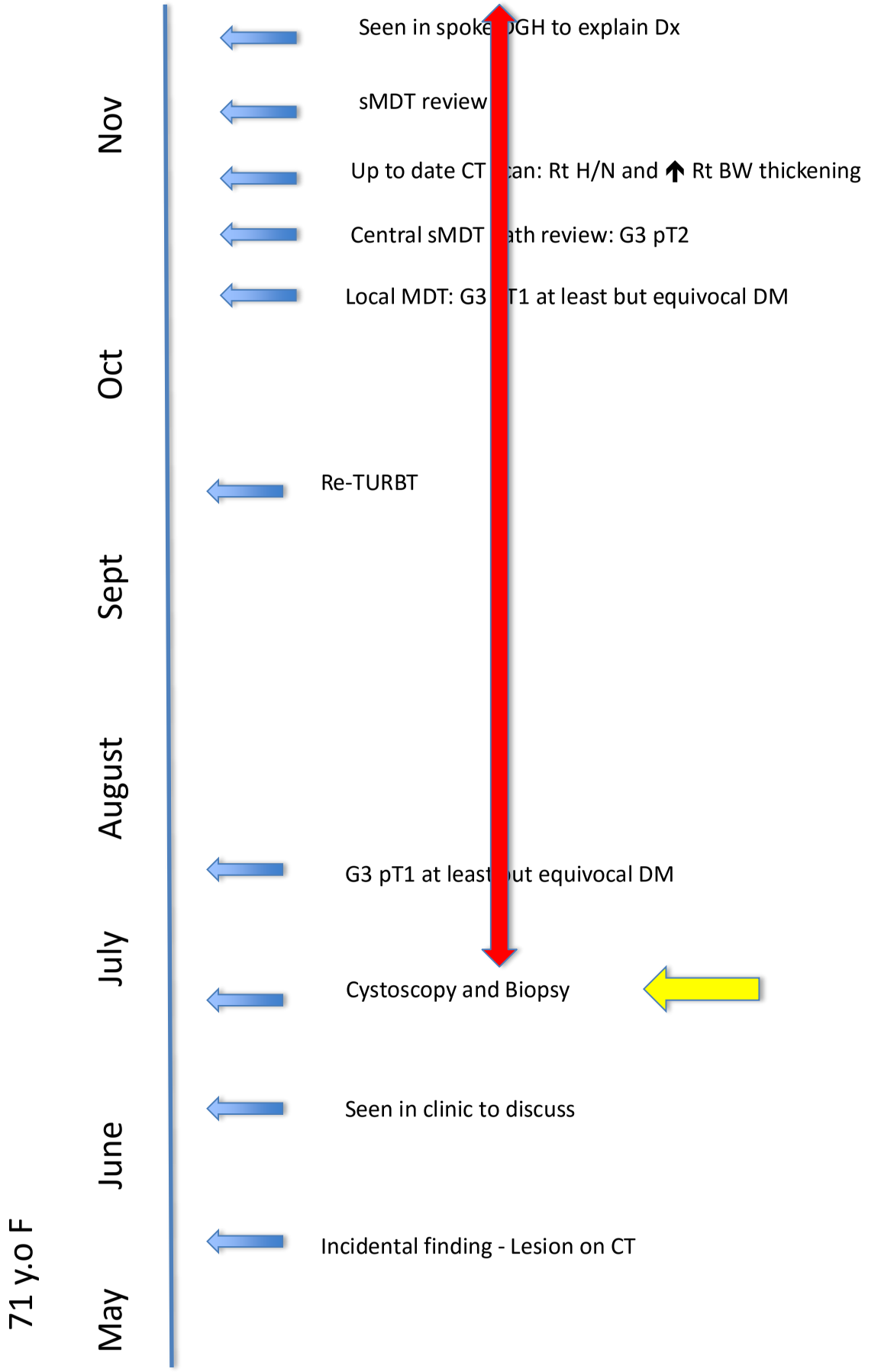

71 y.o F
May
June
July
August
Sept
Oct
Nov
Incidental finding - Lesion on CT
Seen in clinic to discuss
Cystoscopy and Biopsy
G3 pT1 at least but equivocal DM
Re-TURBT
Local MDT: G3 pT1 at least but equivocal DM
Central sMDT path review: G3 pT2
Up to date CT scan: Rt H/N and ↑ Rt BW thickening
sMDT review
Seen in spoke DGH to explain Dx



Urology	When carrying out a TURBT when the intention is to eradicate or substantially debulk the tumour it can be considered first definitive treatment. TURBT remains the first definitive treatment even for patients who require further treatment such as cystectomy or radiotherapy.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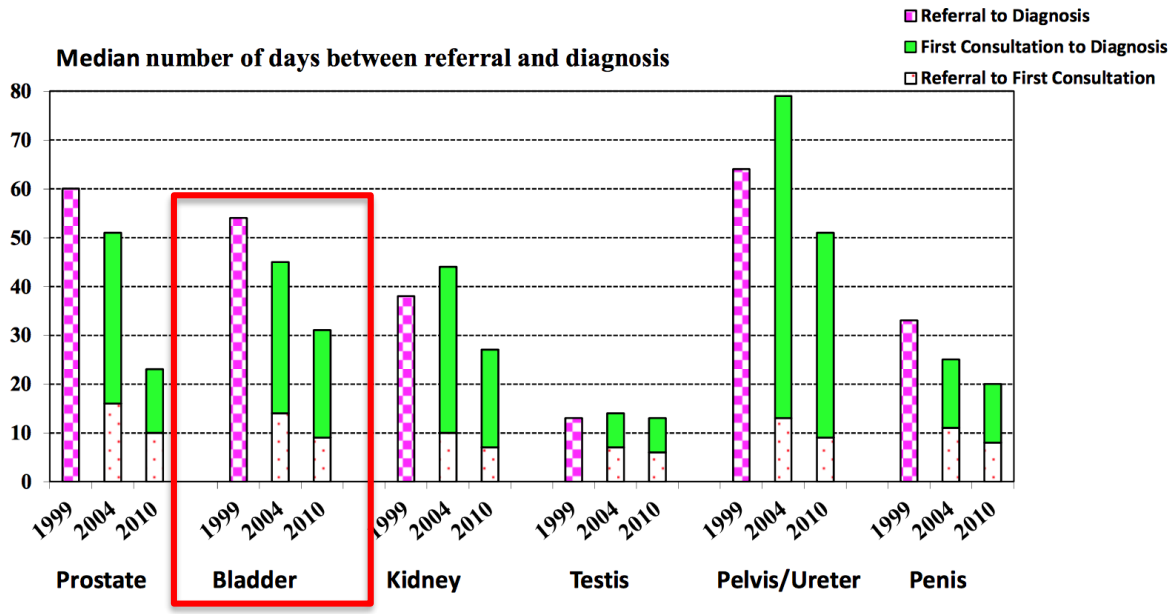
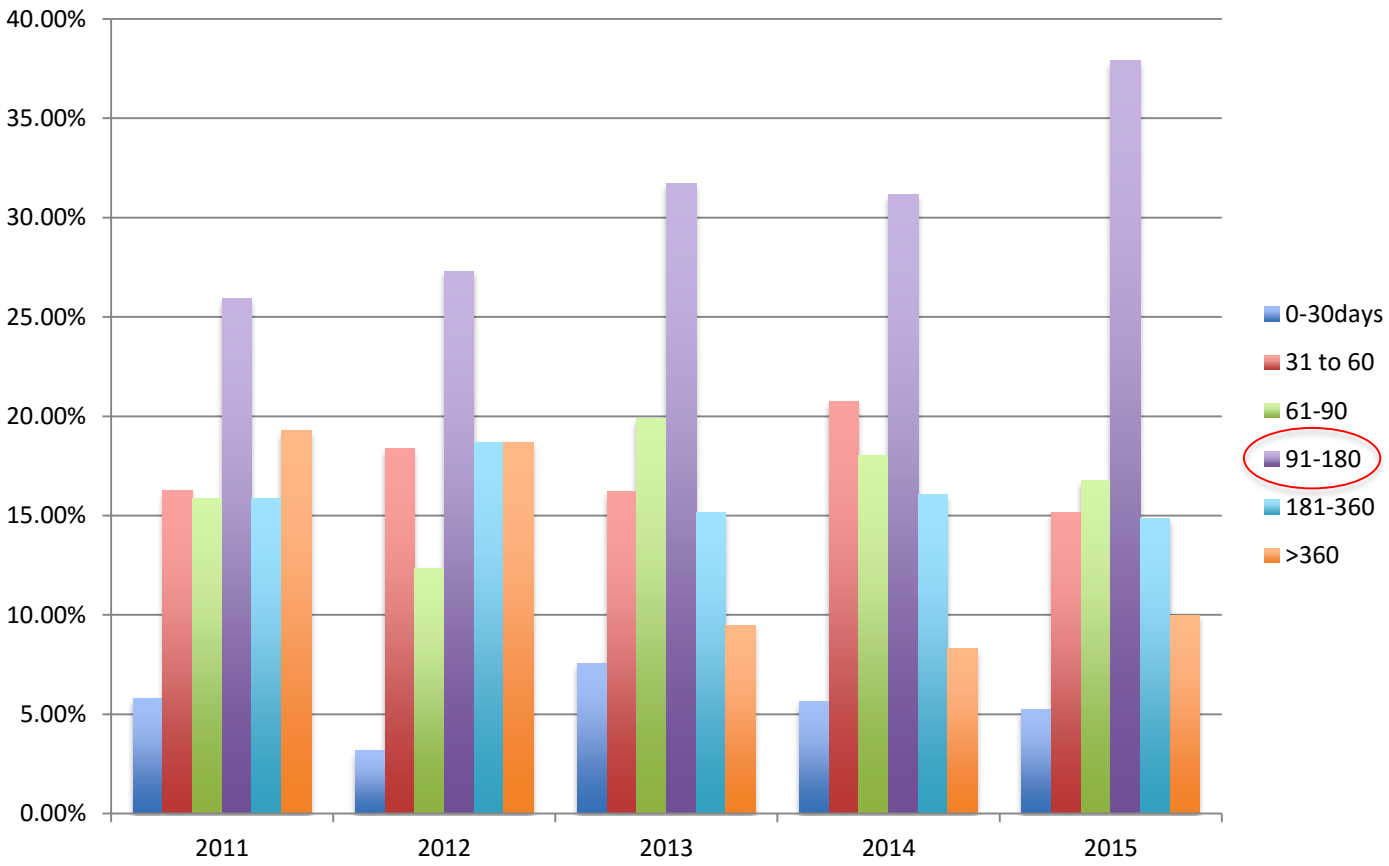


Times to Definitive Treatment in Days by Organ – 2010 and 2004
Excluding tumours diagnosed or treated before referral

Organ	Median Time between Referral and Definitive Treatment in days		Median Time between Diagnosis and Definitive Treatment in days	
	2004	2010	2004	2010
Prostate	112	54	31	26
Bladder	63	38	0	0
Kidney	65	54	0	12
Testis	16	15	0	0
Pelvis/Ureter	117	83	6	22
Penis	41	57	15	24

Time from TURBT to RC



How quickly are we treating muscle invasive bladder cancer? Trends over a 17 year period

M. Mantle[a,*], A.J. Dickinson[b], M. Moody[c], R. Cox[a]

[a] Department of Urology, Royal Cornwall Hospital, Truro, Cornwall TR1 3LJ, UK
[b] Department of Urology, Derriford Hospital, Derriford Road, Plymouth, Devon PL6 8DH, UK
[c] Department of Urology, North Devon District Hospital, Raleigh Park, Barnstaple, Devon EX31 4JB, UK

Waits for TURBT have come down over… the subsequent delay from TURBT to definitive treatment has lengthened with no change in total time to treatment.

BJMSU 2009

Delays in the diagnosis and treatment of muscle invasive bladder cancer: A pilot project mapping the pathway

M Shahid Iqbal[1], R Pickles[2], I Pedley[1], J Frew[1], A Azzabi[1], R Heer[3], A Thorpe[4], M Johnson[4], L Robson[4] and R McMenemin[1]

After implementing the strategies, the median time to TURBT improved to 23 days and from TURBT to subsequent treatment to 66 days [89 days total]

JCU 2015

Does it matter?

Significance of the interval between first and second transurethral resection on recurrence and progression rates in patients with high-risk non-muscle-invasive bladder cancer treated with maintenance intravesical Bacillus Calmette-Guerin

Sümer Baltacı, Murat Bozlu*, Asıf Yıldırım†, Mehmet İlker Gökçe, İlker Tinay‡, Guven Aslan§, Cavit Can¶, Levent Turkeri‡, Ugur Kuyumcuoglu** and Aydın Mungan††

*Department of Urology, Ankara University School of Medicine, Ankara , *Department of Urology, University of Mersin School of Medicine, Mersin , †Department of Urology, Istanbul Medeniyet University School of Medicine , ‡Department of Urology, Marmara University School of Medicine, Istanbul , §Department of Urology, Dokuz Eylul University School of Medicine Inciralti, Izmir , ¶Department of Urology, Medical Faculty, Eskisehir Osmangazi University, Eskisehir , **Department of Urology, Trakya University School of Medicine, Edirne , and ††Department of Urology, Bulent Ecevit University School of Medicine, Zonguldak, Turkey*

The interval to second TUR was found to be a predictor of both recurrence and progression…The interval between first and second TUR should be ≤42

BJUI 2015

Mortality Increases When Radical Cystectomy Is Delayed More Than 12 Weeks

Results From a Surveillance, Epidemiology, and End Results–Medicare Analysis

John L. Gore, MD[1,2,3], Julie Lai, MS[4], Claude M. Setodji, PhD[4], Mark S. Litwin, MD, MPH[3,4], Christopher S. Saigal, MD, MPH[3,4], and the Urologic Diseases in America Project

Delay in definitive surgical treatment beyond 12 weeks conferred an increased risk of disease-specific and all-cause mortality among subjects with stage II bladder cancer

Cancer 2009

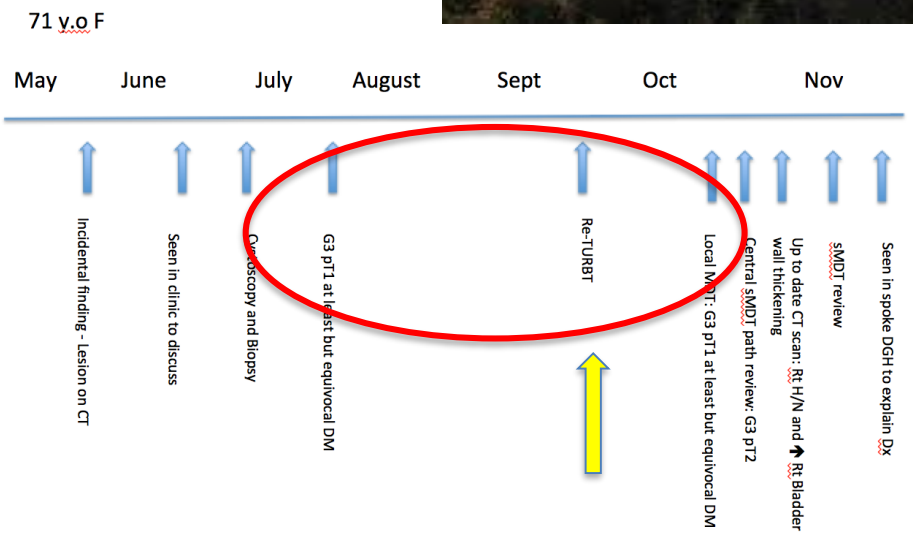
Delays in Diagnosis and Bladder Cancer Mortality

Brent K. Hollenbeck, MD, MS[1,2,3]; Rodney L. Dunn, MS[2]; Zaojun Ye, MS[2]; John M. Hollingsworth, MD, MS[2,4]; Ted A. Skolarus, MD[2]; Simon P. Kim, MD, MPH[2]; James E. Montie, MD[1,2]; Cheryl T. Lee, MD[1]; David P. Wood, Jr., MD[1]; and David C. Miller, MD, MPH[1,2,3]

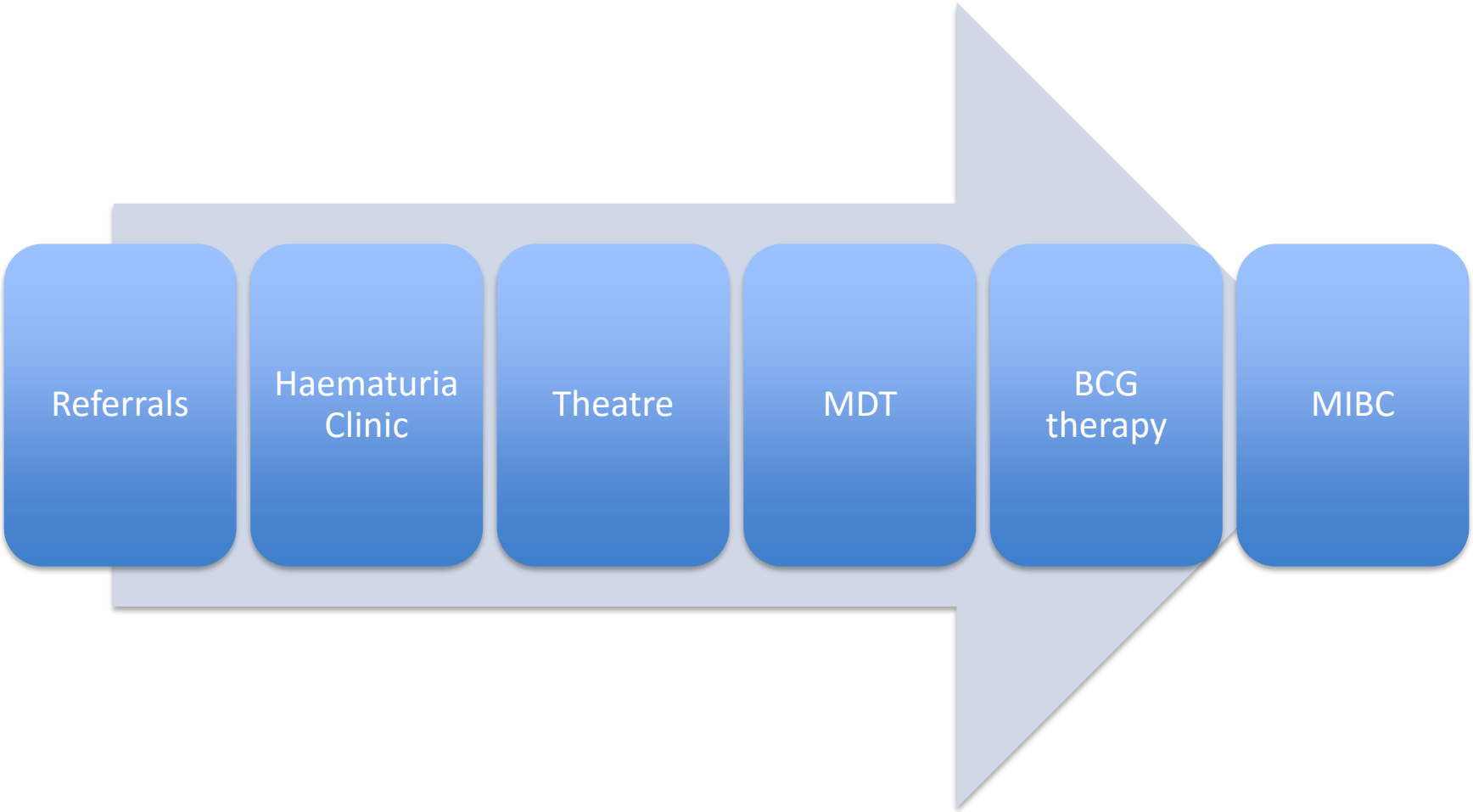
A delay in the diagnosis of bladder cancer increased the risk of death from disease independent of tumor grade and or disease stage.

Cancer 2010

The rollercoaster



Strategies to reduce pathway delays



Referrals

NICE referral criteria for pts with suspected bladder cancer

- PPV threshold 3%

NVH	PPV (%)
40-59	0.8
60	1.8
NVH + Dysuria	4.5%
NVH + ↑ WCC	3.9%

Aged >60 and unexplained NVH and either dysuria or ↑ WCC

Implications of rejecting referrals for asymptomatic NVH: A single centre experience

- aNVH referrals were rejected

	Pre	Post
Total	352	324
VH	212	
NVH	55 1 LR NMIBC	
aNVH	85	76 rejected
BC	34	39
HR NMIBC/MIBC	13	15
RTT	39d	18d
OSHC slots	136	90

Carter et al. Global Congress on Bladder Cancer 2016

Time to abandon testing for microscopic haematuria in adults?

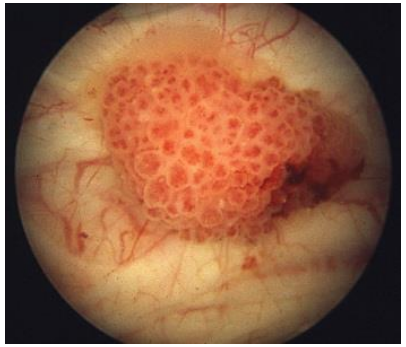
Per-Uno Malmström

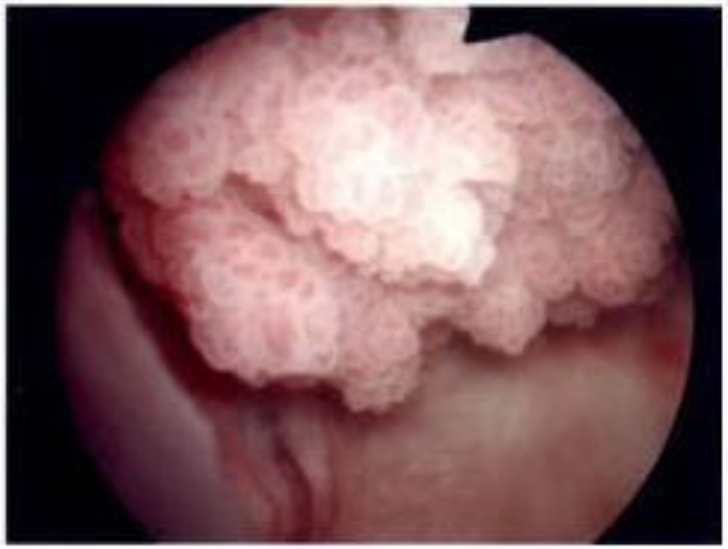
Although there is no doubt that macroscopic haematuria is serious, the clinical significance of asymptomatic microscopic haematuria is controversial. Should it still be tested for?

BMJ 2003

‘National Board of Health and Welfare in Sweden recommended that testing for MH should be abandoned in 1999’

OSHC





OSHC

Prediction of histological stage based on cytoscopic appearances of newly diagnosed bladder tumours

VA During[1], GM Sole[2], AK Jha[2], JA Anderson[2], RT Bryan[1]

[1]University of Birmingham, Edgbaston, UK
[2]The County Hospital, Hereford, UK

CONCLUSIONS We find that visual assessment is accurate in predicting the presence of MIBC. This supports the practice of stratifying patients at the time of initial cystoscopy for those requiring further radiological staging pre-TURBT.

Annals RCSE 20016

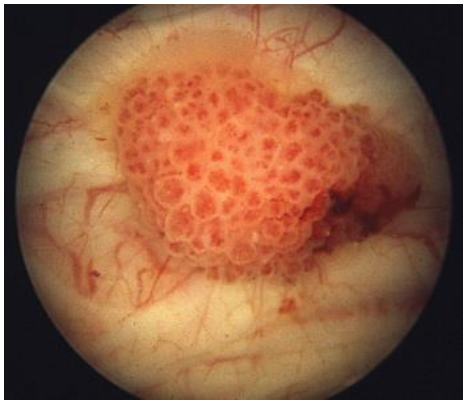
1.2.2 Consider CT or MRI staging before transurethral resection of bladder tumour (TURBT) if muscle-invasive bladder cancer is suspected at cystoscopy.

NICE Bladder cancer guideline 2015

- If H/nephrosis on U/S ➔ CT scan

OSHC

1



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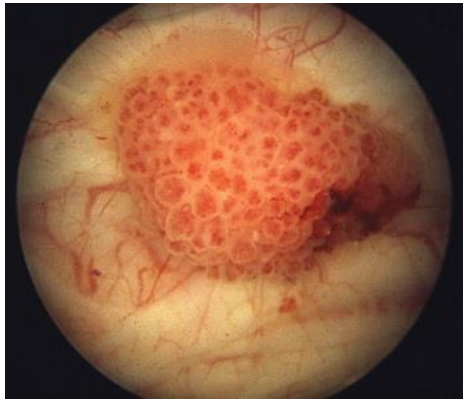

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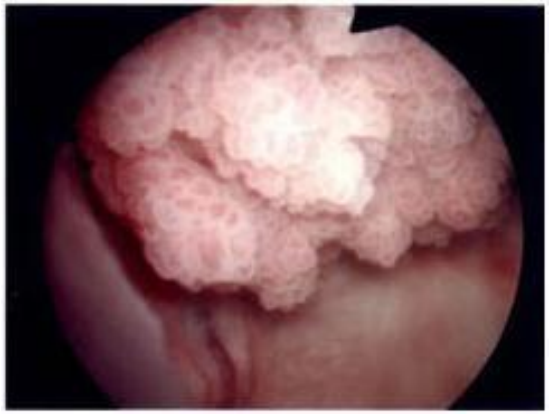
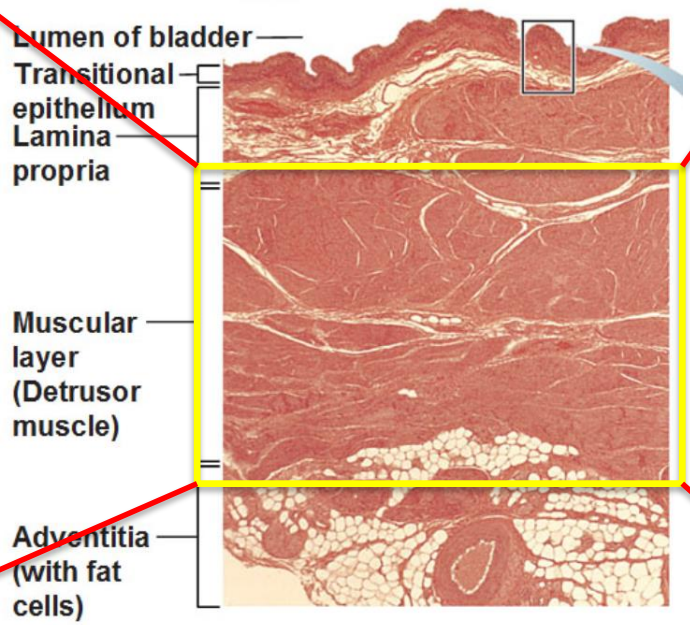


1

In Theatre

HR NMIBC or MIBC?

MIBC ➔ Radical treatment



Re-TUR ?

➔ BCG

Time to re-evaluate and refine re-transurethral resection in bladder cancer?

'As failure to obtain DM results in the patient having a second operation and delays their treatment, perhaps we should start to think of this in much the same way as postive margin rates are used as a measure of the quality of RP and by inference, the skill of the surgeon.'

BJUI 2016

1st TURBT

- Team Brief Largest TURBT first on list
  D/C cystoscopies can wait

DM

- Separate deep biopsy of tumour base
- If not sure, try again until you are
- Path form: 'Is there DM in the specimen?'

MDT

- No mention of DM:

  Pathologist re-examine and rewrite report

- Equivocal DM:

  sMDT path review *and* book re-TUR

Who needs Re-TUR?

Perform a second TURB in the following situations: • after incomplete initial TURB; • if there is no muscle in the specimen after initial resection, with the exception of TaG1 tumours and primary CIS; • in all T1 tumours; • in all G3 tumours, except primary CIS.	A

EAU NMIBC Guidelines 2016

The impact of re-transurethral resection on clinical outcomes in a large multicentre cohort of patients with T1 high-grade/Grade 3 bladder cancer treated with bacille Calmette–Guérin

Paolo Gontero[1], Richard Sylvester[2], Francesca Pisano[1], Steven Joniau[3], Marco Oderda[1], Vincenzo Serretta[4], Stéphane Larré[5], Savino Di Stasi[6], Bas Van Rhijn[7], Alfred J. Witjes[8], Anne J. Grotenhuis[8], Renzo Colombo[9], Alberto Briganti[9], Marek Babjuk[10], Viktor Soukup[10], Per-Uno Malmström[11], Jacques Irani[12], Nuria Malats[13], Jack Baniel[14], Roy Mano[14], Tommaso Cai[15], Eugene K. Cha[16], Peter Ardelt[17], John Vakarakis[18], Riccardo Bartoletti[19], Guido Dalbagni[20], Shahrokh F. Shariat[16], Evanguelos Xylinas[16], Robert J. Karnes[21] and Joan Palou[22]

- 2451 pts with HG/G3 T1 Rx'd with BCG
- 935 (38%) had re-TUR
- Re-TUR in the presence of DM did not improve the outcome of Rec, Prog, CSS or OS

- ' Re-TUR may not be necessary in pts with HG/G3 T1 if muscle is present'

BJUI 2016

Significance of the interval between first and second transurethral resection on recurrence and progression rates in patients with high-risk non-muscle-invasive bladder cancer treated with maintenance intravesical Bacillus Calmette-Guerin

Sümer Baltacı, Murat Bozlu*, Asıf Yıldırım†, Mehmet İlker Gökçe, İlker Tinay‡, Guven Aslan§, Cavit Can¶, Levent Turkeri‡, Ugur Kuyumcuoglu** and Aydın Mungan††

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'The interval to re-TUR was found to be a predictor of both recurrence and progression…

The interval between first and re-TUR should be < 7 weeks'

BJUI 2015

Time to re-evaluate and refine re-transurethral resection in bladder cancer?

' It therefore seems logical to reserve re-TUR only for those who truly need it, so that limited resources are focused on ensuring that they receive their operation in a timely manner… whilst for those that do not, essential intravesical treatment is not delayed'

BJUI 2016

EAU NMIBC guidelines 2017

Perform a second TURB in the following situations: • after incomplete initial TURB; • if there is no muscle in the specimen after initial resection, with the exception of TaG1 tumours and primary CIS; • in all T1 tumours; • ~~in all G3 tumours, except primary CIS.~~	A

No need to re-TUR G3 pTa if DM in specimen

IPD meta-analysis of re-TUR to determine role of re-TUR in T1

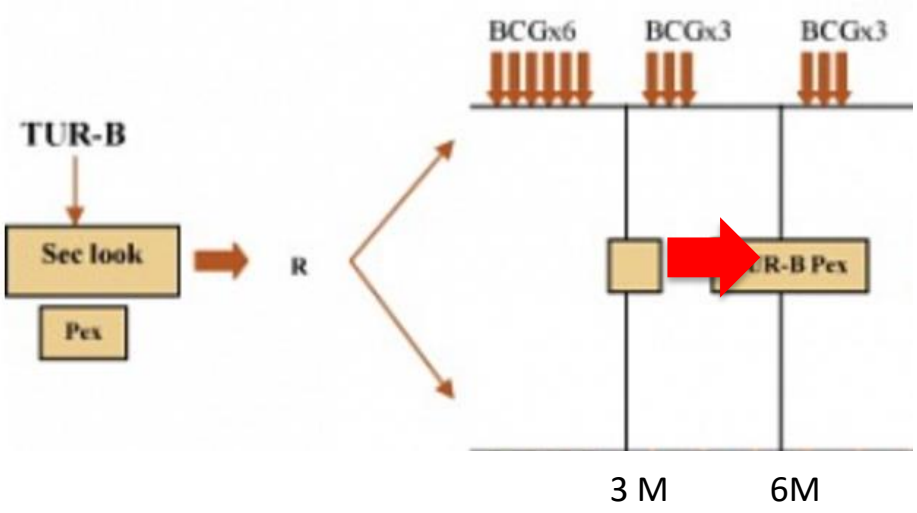
Reducing delays during BCG therapy

Definitions, End Points, and Clinical Trial Designs for Non–Muscle-Invasive Bladder Cancer: Recommendations From the International Bladder Cancer Group

Ashish M. Kamat, Richard J. Sylvester, Andreas Böhle, Joan Palou, Donald L. Lamm, Maurizio Brausi, Mark Soloway, Raj Persad, Roger Buckley, Marc Colombel, and J. Alfred Witjes

'Wait until 6 month cystoscopy to identify true BCG failures: An additional 25-67% who do not respond to an induction course will respond to a second course of BCG

JCO 2016



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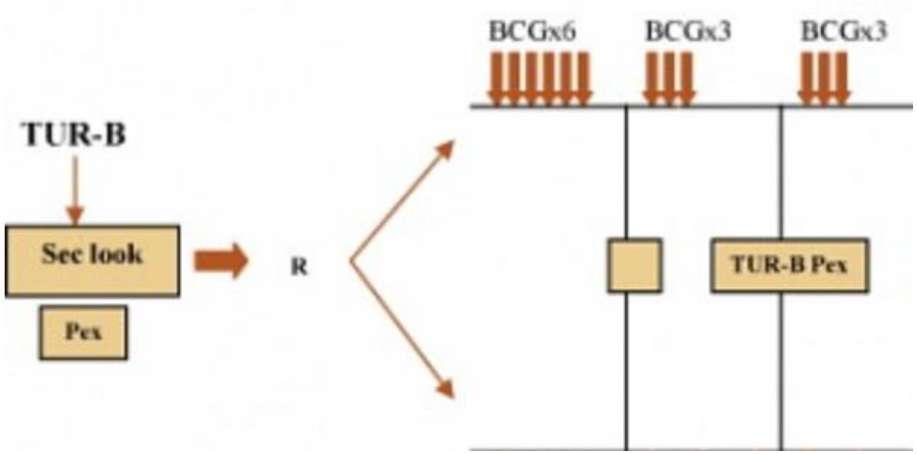


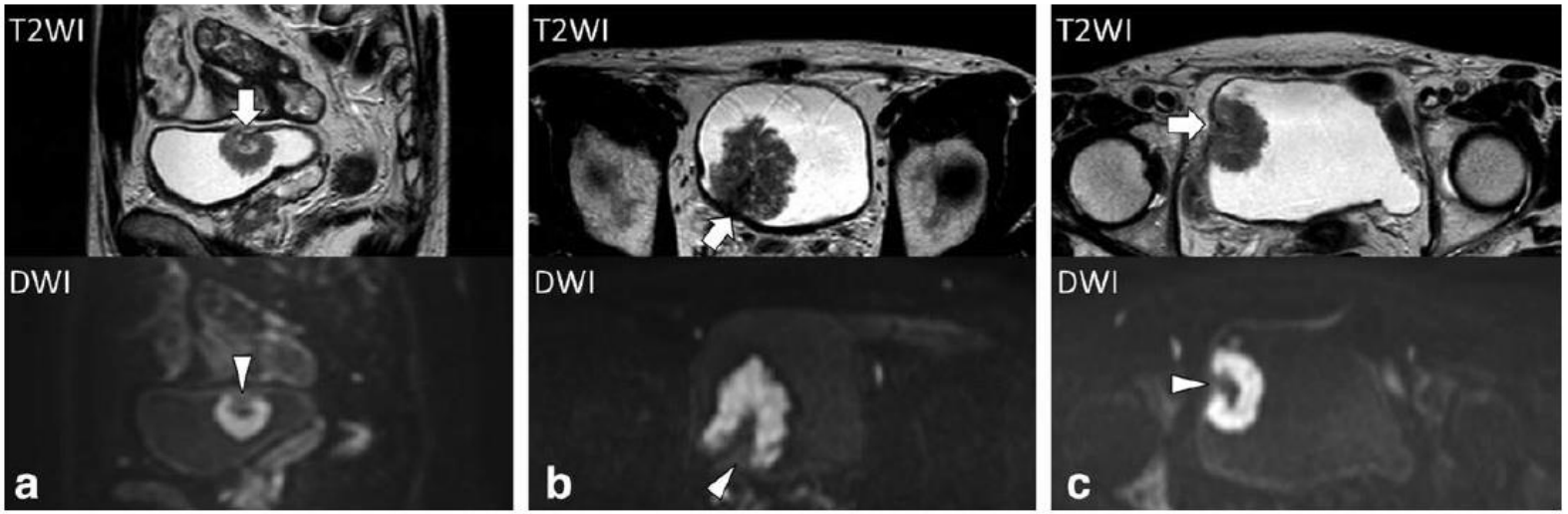
Flexi, not GA. Don't biopsy red patches

Reducing delays in MIBC

Could a streamlined pathway improve outcomes?

Can we more accurately stage BC?

- **Yes, by MRI:**
  - Rajesh A et al. *Clin Radiol* 2011; **66**: 1140-45.
  - Donaldson SB et al. *Eur J Radiol* 2013; **82**: 2161-8.
  - Rosenkrantz AB et al. *AJR Am J Roentgenol* 2013; **201**: 1254-9.
  - Takeuchi M et al. *J Magn Reson Imaging* 2013; **38**: 1299-309.
  - Wang HJ et al. *Abdom Imaging* 2014; **39**: 135-41.
  - Wang HJ et al. *AJR Am J Roentgenol* 2015; **204**: 330-4.



Magnetic Resonance Imaging
Discriminating NMIBC from MIBC

Sensitivity

- T2-weighted: **88%**
- T2+DWI: **88%**
- T2+DCE: **94%**
- All 3: **94%**

Specificity

- T2: **74%**
- T2+DWI: **100%**
- T2+DCE: **86%**
- All 3: **100%**

TURBT pathological upstaging at cystectomy: 40%....

Takeuchi M et al. Urinary bladder cancer: diffusion-weighted MR imaging--accuracy for diagnosing T stage and estimating histologic grade. *Radiology* 2009; **251**: 112-21.
Wang HJ et al. Multiparametric 3-T MRI for differentiating low-versus high-grade and category T1 versus T2 bladder urothelial carcinoma. *Am J Roentgenol* 2015; **204**: 330-4.

The ideal new pathway?

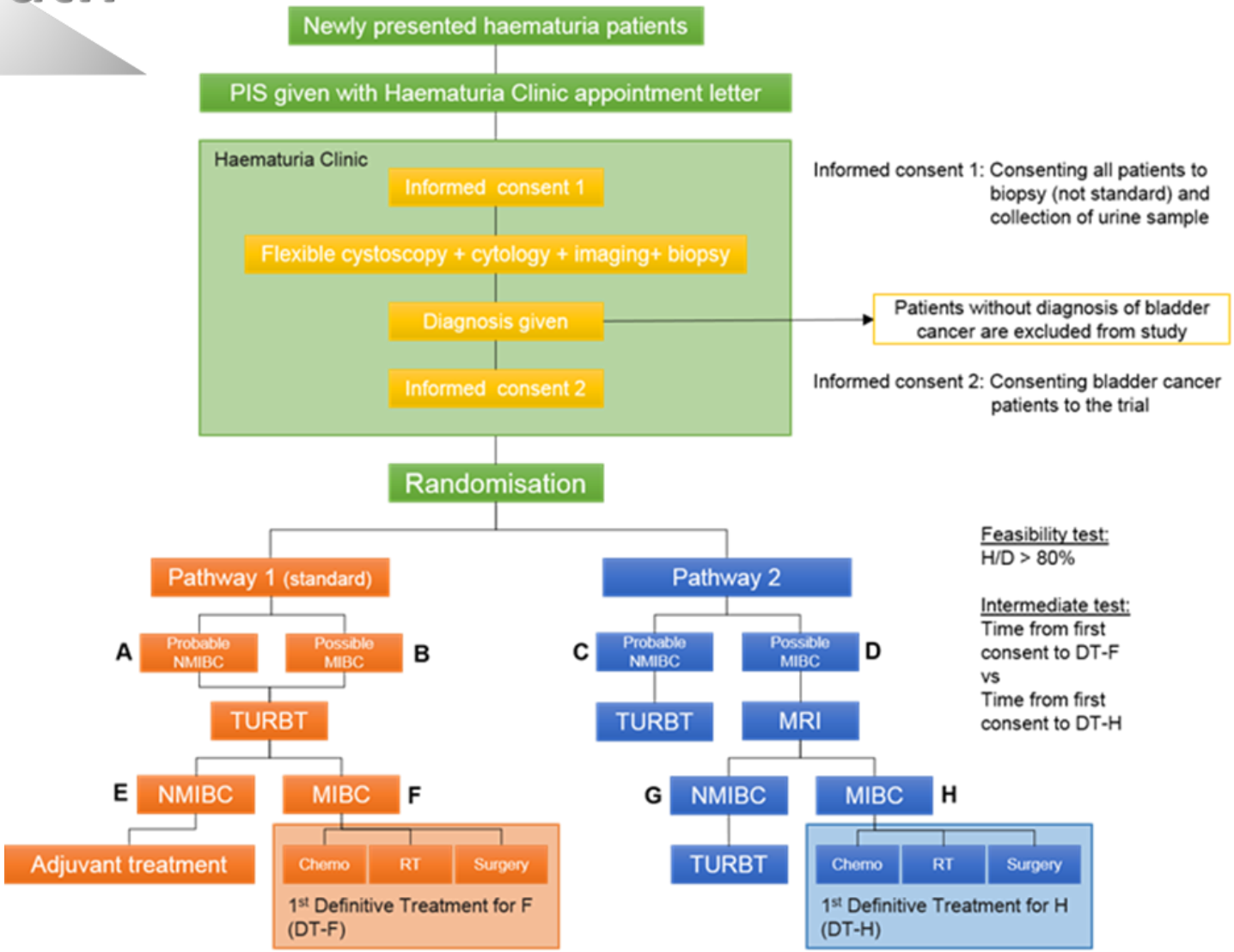
NMIBC

- Diagnose on flexi & biopsy or cytology
- Fast-track to TURBT and subsequent therapy.

MIBC

- Diagnose with flexi & biopsy
- Stage by MRI
- Fast-track to definitive therapy
- TURBT only if urgently needed for symptoms or palliation.

BladderPath



WARWICK

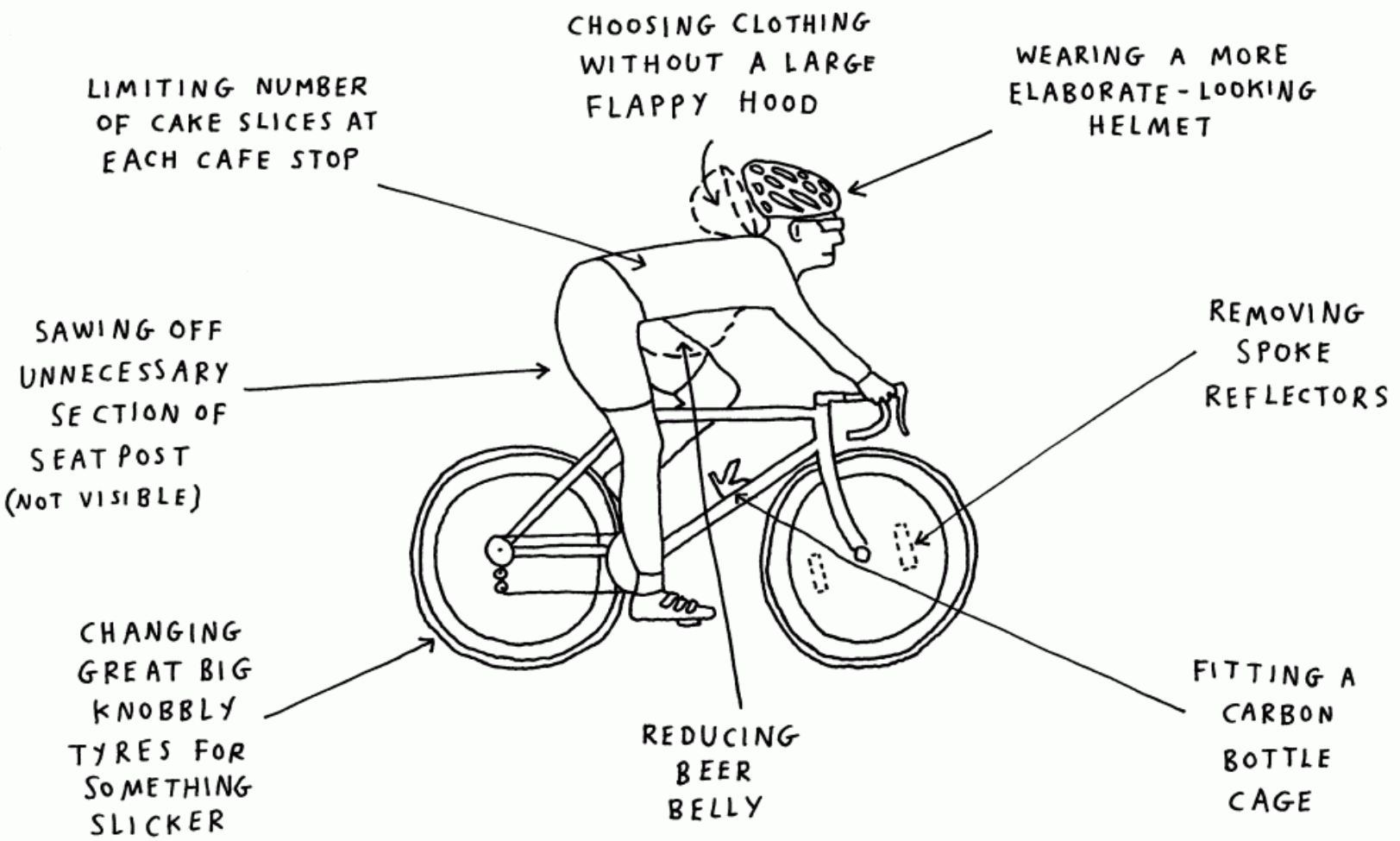
WARWICK MEDICAL SCHOOL

NHS

National Institute for Health Research

MARGINAL GAINS

HOW THE PROFESSIONALS MAKE SMALL CHANGES TO IMPROVE THEIR PERFORMANCE



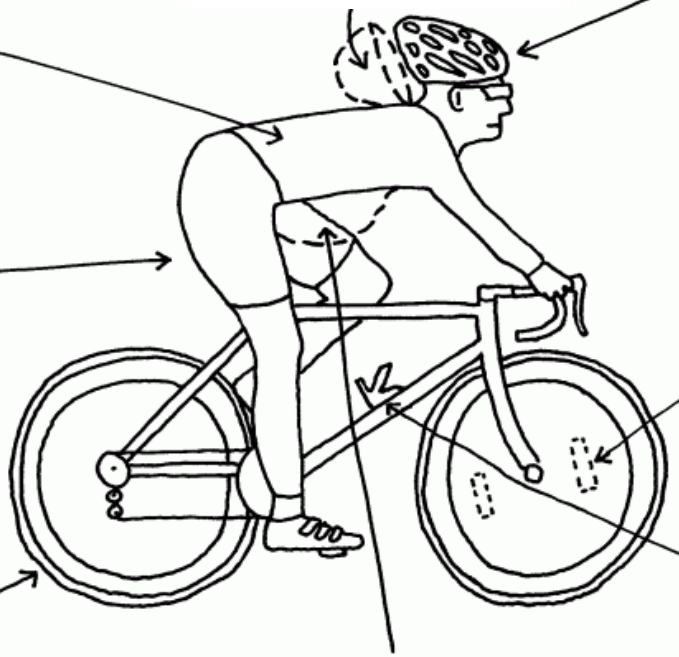
MARGINAL GAINS

HOW THE PROFESSIONALS MAKE SMALL CHANGES TO IMPROVE THEIR PERFORMANCE

Prioritise tumours from OSHC and order imaging

Put larger tumours first on op list

Review aNVH TWR referrals



Flexi cysto not GA following induction BCG

Take separate biopsies from tumour base

G3 pTa with DM in specimen doesn't need a re-TUR

If DM equivocal, sMDT path review *and* put on re-TUR list

Write 'is there DM in the specimen?' on path form