Programma

18.30 uur: Ontvangst & buffet

19.00 uur: **<u>Module 3</u> Diagnosis of prostate cancer**
Presentatie en interactieve discussie

20.00 uur: Pauze

20.15 uur: **<u>Module 4</u> Biochemical recurrence after radical treatment**
Presentatie en interactieve discussie

Spreker: Prof. dr. R.C.M. Pelger, uroloog LUMC, Leiden

21.30 uur: Afsluiting

PHNL/ZYT/0115/0002g(1)

Mirrors of medicine

An online program that helps discover the best available evidence at the patient-specific level

Combining the best of two worlds....

Mirrors of Medicine

- *"Translating scientific evidence into everyday practice"*

- Developed by scientific society ISSECAM
  - **I**nternational **S**ociety for the **S**tudy and **E**xchange of evidence from **C**linical research **A**nd **M**edical experience

- Focus on education and research in uro-oncology (starting PCa)
  - Urologists
  - Oncologists
  - Radiation oncologists

Mirrors of Medicine models

- **Five prostate cancer modules**
  - **High risk M0, mCRPC, Localised, Biochemical recurrence, Diagnosis**
- Treatment recommendations for hundreds of different profiles
  - Updated every 6 months with evidence and guidelines
- Developed using the RAND/UCLA appropriateness method[1]
  - Systemic approach to develop patient-specific recommendations by combining evidence from RCT with the collective judgement of experts
  - Produces reliable, internally consistent and clinically valid results[2]

1 Brook RH, Chassin MR, Fink A, et al. A method for the detailed assessment of the appropriateness of medical technologies. Int J Technol Assess Health Care 1986;2:53-63.
2 Lawson EH, Gibbons MM, Ko CY, Shekelle PG. The appropriateness method has acceptable reliability and validity for assessing overuse and underuse of surgical procedures. J Clin Epidemiol 2012;65:1133-43.

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High-risk non-metastatic prostate cancer

Open model | Take course

Gert De Meerleer
University Hospital Ghent, Radiotherapy

Metastatic castration-resistant prostate cancer

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Bertrand Tombal
University Hospital Saint-Luc, Urology

Biochemical recurrence after radical treatment

Open model | Take course

Alberto Bossi
Gustave Roussy Institute, Radiotherapy

Diagnosis of prostate cancer

Open model

Theo M de Reijke
Academic Medical Center, Urology

Localised prostate cancer

Open model | Take course

Jeroen van Moorselaar
VUmc Cancer Centre Amsterdam, Urology

Ronde 2 in 2016

Interactive session: 1 CME point/module
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Mirrors of medicine is..

selecting a patient profile…..

see panel recommendations…..

and an overview of underlying evidence + guidelines

Selecting a profile

Definitions

Patient population

Patients being referred to the urologist for the suspicion of prostate cancer (PSA ≥ 3 ng/mL and/or a suspicious DRE)

Life expectancy

PSA (ng/mL)

< 3 | 3-10 | > 10

Prostate volume (cc)

< 30 | 30-60 | > 60

Results of DRE

Normal | Suspicious

Life expectancy

≥ 10 years | < 10 years

Continue

Last update: 31/03/2015 Read more

see panel recommendations……

Click on the variables to change the patient profile.

PSA (ng/mL)

< 3

Prostate volume (cc)

< 30

Results of DRE

Suspicious

Life expectancy

≥ 10 years

For this profile the available choices are:

Click on the choices to see the panel considerations, evidence and guidelines behind these results.

- Prostate biopsy
- PSA follow-up only
- PCA3
- Antibiotics (and repeat PSA)
- MRI (multi-parametric)

Last update: 31/03/2015 **Read more**

Appropriate · Uncertain · Inappropriate · Not applicable

… with underlying evidence and guidelines

Prostate biopsy

Close

Appropriate

Panel considerations

The panel considered prostate biopsy to be an appropriate option in all patients without a previous biopsy and a life expectancy ≥ 10 years.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

Transrectal ultrasound-guided biopsy is the current standard for diagnosing prostate cancer. Suspicion of prostate cancer is based on an elevated PSA value and/or abnormal findings found during digital rectal examination.

Higher PSA levels are associated with a higher risk of having PCa. In a screening study, the proportion of men with PCa on first biopsy was 2% in men with a PSA 0-0.9 ng/mL, 9% in men with a PSA 1.0-1.9 ng/mL, 14% in men with a PSA 2.0-2.9 ng/mL, 23% in men with a PSA 3.0-3.9 ng/mL, 26% in men with a PSA of 4.0-10.0 ng/mL and 57% in men with a PSA > 10 ng/mL [1].

Read in summary

Guidelines

The EAU guidelines state that the decision to biopsy should be based on PSA testing and DRE [13]. The patient's age, potential co-morbidities and the therapeutic consequences should also be considered.

Read in summary

The NCCN guidelines recommend that a biopsy should be considered in men aged 50 to 70 years with a positive DRE and/or a serum PSA > 3.0 ng/mL. However, the decision to perform a biopsy should not be based on a PSA cut-off point alone, but should incorporate other important clinical variables including age, family history, PSA kinetics, ethnicity, health status and patient preference [14].

Read in summary

PHNL/ZYT/0115/0002g(1)

… and all references

References

PubMed

1. Postma R, Schröder FH. Screening for prostate cancer. Eur J Cancer 2005;41:825-33.
2. Harvey P, Basuita A, Endersby D, et al. A systematic review of the diagnostic accuracy of prostate specific antigen. MBC Urology 2009;9:14.
3. Partin AW, Yoo J, Carter HB, et al. The use of prostate specific antigen, clinical stage and Gleason score to predict pathological stage in men with localized prostate cancer. J Urol 1993;150:110-4.
4. Partin AW, Carter HB, Chan DW, et al. Prostate specific antigen in the staging of localized prostate cancer: influence of tumor differentiation, tumor volume and benign hyperplasia. J Urol 1990;143:747-52.
5. Sajadi KP, Kim T, Terris MK, et al. High yield of saturation prostate biopsy for patients with previous negative biopsies and small prostates. Urology 2007;70:691-5.
6. Briganti A, Chun FKH, Suardi N, et al. Prostate volume and adverse prostate cancer features: fact not artifact. Eur J Cancer 2007;43:2669-77.
7. Okotie OT, Roehl KA, Han M, et al. Characteristics of prostate cancer detected by digital rectal examination only. Urology 2007;70:1117-20.
8. Richie JP, Catalona WJ, Ahmann FR, et al. Effect of patient age on early detection of prostate cancer with serum prostate-specific antigen and digital rectal examination. Urology 1993;42:365-74.
9. Schröder FH, van der Maas P, Beemsterboer P, et al. Evaluation of the digital rectal examination as a screening test for prostate cancer. Rotterdam section of the European Randomized Study of Screening for Prostate Cancer. J Natl Cancer Inst 1998;90:1817-23.
10. Smith DS, Catalona WJ. Interexaminer variability of digital rectal examination in detecting prostate cancer. Urology 1995;45:70-4.

PHNL/ZYT/0115/0002g(1)

… and NVU guideline for Dutch participants

NVU richtlijn prostaatcarcinoom 2014

De NVU richtlijn geeft aan dat klinische factoren zoals leeftijd (comorbiditeit), het rectaal toucher en in het bijzonder de aanwezigheid van BPH moeten worden meegenomen in de beslissing over het nemen van prostaatbiopten bij mannen met een PSA ≥ 3.0 ng/mL.
Het is aannemelijk dat risicowijzers en nomogrammen de efficiëntie van de besluitvorming tot het nemen van prostaatbiopten op basis van de PSA test verbeteren. Een voorwaarde is dat het model informatie bevat over het prostaatvolume en het model met acceptabel resultaat is gevalideerd.

Bekijk de volledige richtlijn

All European MoM panel members

- Alberto Bossi
- Alberto Briganti
- Alessandro Volpe
- Alex Mottrie
- Alexander Govorov
- Alexander Haese
- Alexandre de la Taille
- Amit Bahl
- Andreas Blana
- Andrew Stephenson
- Antonio Alcaraz
- Arnoud Templeton
- Ash Tewari
- Bertrand Tombal
- **Bradley Pieters**
- Christophe Massard
- Dominik Berthold
- Filip Ameye
- François Cornud
- Frédéric Lecouvet
- Geert Villeirs
- Gert De Meerleer
- Hein Van Poppel
- **Inge van Oort**
- **Jack Schalken**
- Jacques Irani
- James Eastham
- **Jelle Barentsz**
- **Jeroen van Moorselaar**
- Joaquim Bellmunt
- Jochen Walz
- Johan Braeckman
- Jonas Hugosson
- **Jorg Oddens**
- Jörg Schröder
- Karim Fizazi
- Karin Haustermans
- Malcolm Mason
- **Marco van Vulpen**
- Maria De Santis
- Mark Speakman
- Markus Graefen
- Martin Spahn
- Mesut Remzi
- **Monique Roobol**
- Nicholas Van As
- Nicolas Mottet
- Noel Clarke
- Paolo Gontero
- **Paul Kil**
- Paul Perrin
- Piet Ost
- Scott Eggener
- Sergio Villa
- Srinivas Samavedi
- Steven Joniau
- **Theo de Reijke**
- Thomas Wiegel
- Vincent Khoo
- Vip Patel
- Xavier Maldonado

Panel - Diagnosis

Chair

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Academic Medical Center, Urology
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Netherlands
View biography

Model

Panel

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Panel ratings: appropriateness assessments

Diagnosis of prostate cancer (1st rating round)

Chapter 01: No previous biopsy

1 / 15

Patient profile

Disable help Patient population

PSA (ng/mL)	< 3
Prostate volume (cc)	< 30
Results of DRE	Suspicious

Appropriateness of regimens as the next step

	Life expectancy (years)	
	≥ 10 years	< 10 years
Prostate biopsy	1	1
PSA follow-up only	3	5
PCA3	4	4
Antibiotics (and repeat PSA)	1	2
MRI (multi-parametric)	5	1

Registration

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- Select a value -

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- Select a value -

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- Select a value -

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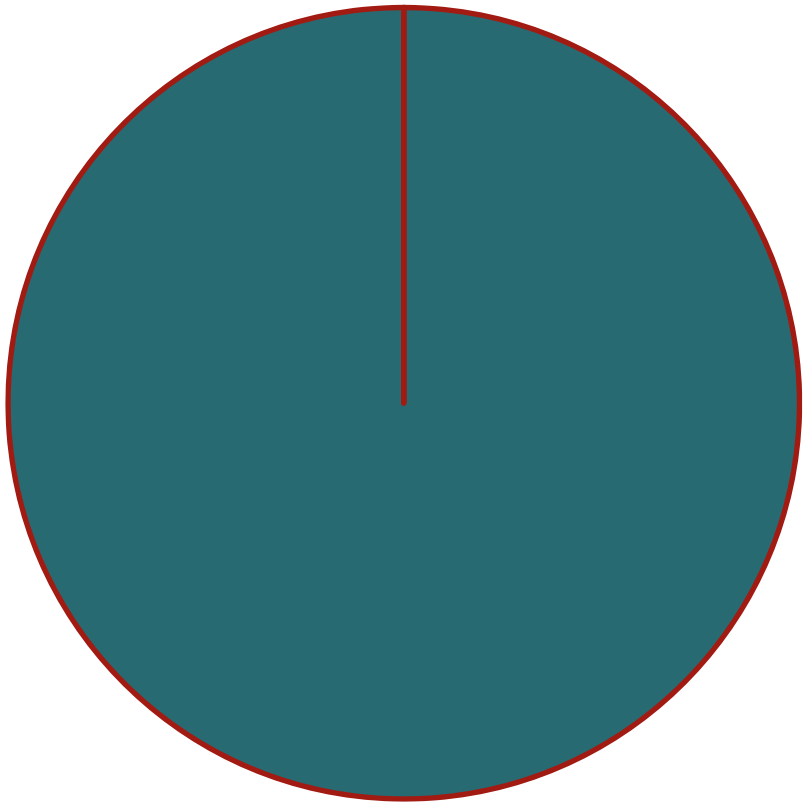
Stemronde geopend

Wie zijn er aanwezig?

- uroloog
- aios urologie
- radiotherapeut
- aios radiotherapeut
- oncologie verpleegkundige/verpleegkundig specialist
- physician assistant
- radioloog
- nucleair geneeskundige



CME accredited educational module

Diagnosis of prostate cancer

PHNL/ZYT/0115/0002g(1)

Mirrors of medicine

April 2016

Subject of this meeting

Diagnostic evaluation of patients who have been referred to the urologist for the suspicion of prostate cancer

- PSA ≥ 3 ng/mL

  and/or

- suspicious digital rectal examination (DRE)

Science and practice

How to translate evidence from clinical studies to individual patients?

Select a module and compose a patient profile

- Diagnosis of prostate cancer
- Localised prostate cancer
- High-risk non-metastatic prostate cancer
- Biochemical recurrence after radical treatment
- Metastatic castration-resistant prostate cancer

Please select a model

No previous biopsy → patient case 1

Negative first biopsy → patient case 2

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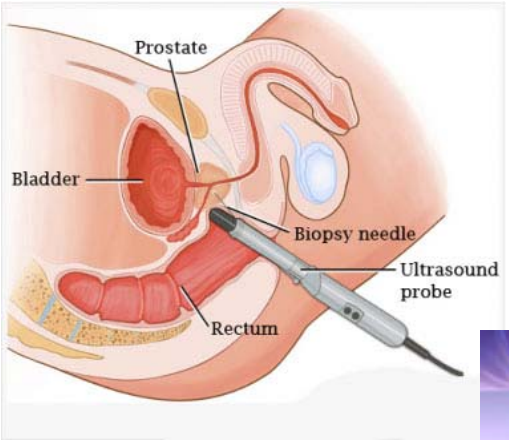
Diagnostic options



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Diagnostic options

No previous biopsy	Negative first biopsy
	No further action
Prostate biopsy (short term)	Repeat biopsy (6-12 weeks)
PSA follow-up only	Repeat PSA (12-24 weeks)
PCA3 test	PCA3 test
Antibiotics + PSA follow-up	Antibiotics + PSA follow-up
MRI (multiparametric)	MRI (multiparametric)

Clinical variables used for the construction of patient profiles

PSA (ng/mL)

< 3	3-10	> 10

Prostate volume (cc)

< 30	30-60	> 60

Results of DRE

Normal	Suspicious

Life expectancy

≥ 10 years	< 10 years

PHNL/ZYT/011

Patient case 1

No previous biopsy

Patient case 1 - No previous biopsy

- 68 yr old, retired fireman
- Complaints of fatigue due to nocturia, is afraid of cancer
- GP consultation: PSA 3.2 ng/mL, DRE: enlarged, not suspicious
- PSA at urologist consultation: 3.7 ng/mL
- Prostate examination:
  - Volume: 40 cc
  - DRE: normal
- No comorbidities

Previous biopsy	No
PSA	3-10 ng/mL
Prostate volume	30-60 cc
DRE	Normal
Life expectancy	≥ 10 years

What would be the most appropriate next step?

Clinical variables: patient case 1

PSA (ng/mL)

< 3	**3-10**	> 10

Prostate volume (cc)

< 30	**30-60**	> 60

Results of DRE

Normal	Suspicious

Life expectancy

≥ 10 years	< 10 years

What would be the most appropri treatment for this patient?

Stemronde geopend

1. Prostate biopsy

50%

2. PSA follow-up only

50%

3. PCA3

0%

4. Antibiotics (and repeat PSA)

0%

5. MRI (multi-parametric)

0%

What do the MoM experts recommend?

Click on the variables to change the patient profile.

PSA (ng/mL)

3-10

Prostate volume (cc)

30-60

Results of DRE

Normal

Life expectancy

≥ 10 years

For this profile the available choices are:

Click on the choices to see the panel considerations, evidence and guidelines behind these results.

- Prostate biopsy
- PSA follow-up only
- PCA3
- Antibiotics (and repeat PSA)
- MRI (multi-parametric)

Last update: 31/03/2015 **Read more**

Appropriate · Uncertain · Inappropriate · Not applicable

Prostate biopsy

Is prostate biopsy the best option for this patient?

Appropriate

Panel considerations

The panel considered prostate biopsy to be an appropriate option in all patients without a previous biopsy and a life expectancy ≥ 10 years.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

Transrectal ultrasound-guided biopsy is the current standard for diagnosing prostate cancer. Suspicion of prostate cancer is based on an elevated PSA value and/or abnormal findings found during digital rectal examination.

Higher PSA levels are associated with a higher risk of having PCa. In a screening study, the proportion of men with PCa on first biopsy was 2% in men with a PSA 0-0.9 ng/mL, 9% in men with a PSA 1.0-1.9 ng/mL, 14% in men with a PSA 2.0-2.9 ng/mL, 23% in men with a PSA 3.0-3.9 ng/mL, 26% in men with a PSA of 4.0-10.0 ng/mL and 57% in men with a PSA > 10 ng/mL [1].

Read in summary

Guidelines

The EAU guidelines state that the decision to biopsy should be based on PSA testing and DRE [13]. The patient's age, potential co-morbidities and the therapeutic consequences should also be considered.

Read in summary

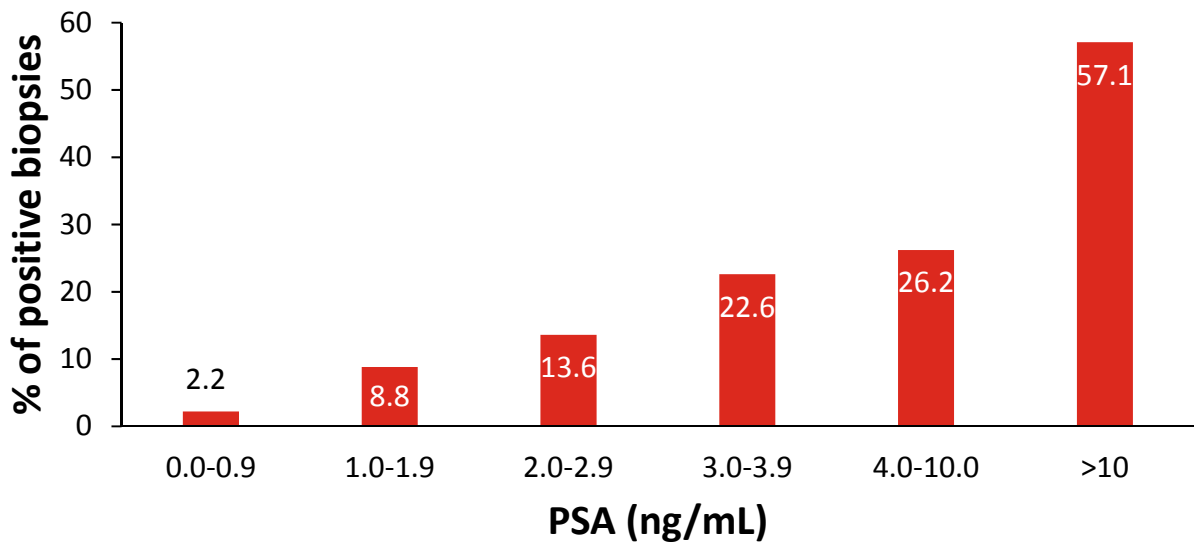
The NCCN guidelines recommend that a biopsy should be considered in men aged 50 to 70 years with a positive DRE and/or a serum PSA > 3.0 ng/mL. However, the decision to perform a biopsy should not be based on a PSA cut-off point alone, but should incorporate other important clinical variables including age, family history, PSA kinetics, ethnicity, health status and patient preference [14].

Read in summary

PSA and the risk of prostate cancer

ELEVATED PSA

- 1st screening round of ERSPC[1]: N = 19.970



- Systematic review of 10 studies[2]:

	Sensitivity	Specificity
tPSA	78-100%	6-66%

[1]Postma R et al. Eur J Cancer 2005;41:825-33; [2]Harvey P et al. MBC Urology 2009;9:14

Prostate volume and the risk of prostate cancer

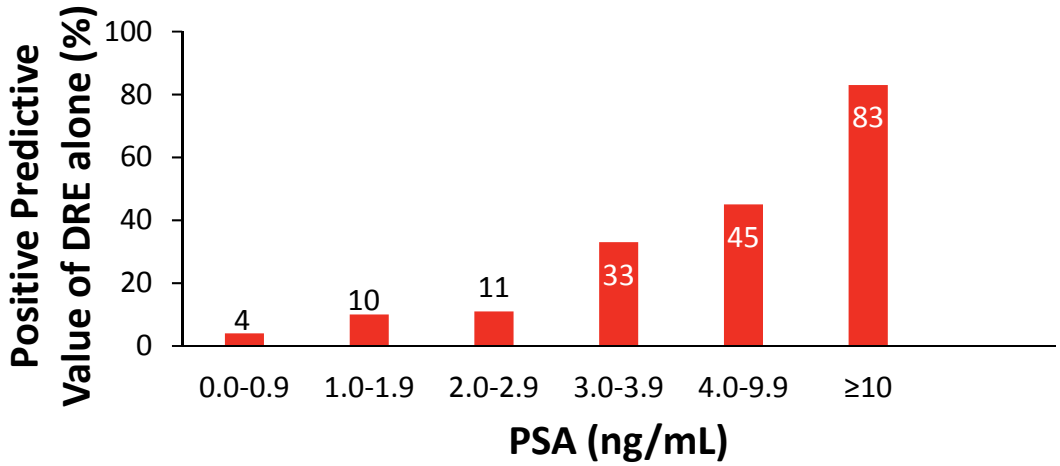
- The PSA level has to be considered in light of the prostate volume (PV) as the PSA level is also increased in patients with a large prostate due to BPH
- In men with a mean PSA level of 9 ng/mL undergoing a saturation biopsy, PV was negatively associated with the probability of PCa[1]
- Among men with a mean PSA level of 11 ng/mL undergoing radical prostatectomy for localised PCa, cancers in small glands were more aggressive than those in large glands[2]

[1]Sajadi KP et al. Urology 2007;70:691-5; [2]Briganti A et al. Eur J Cancer 2007;43:2669-77

DRE and the risk of prostate cancer

SUSPICIOUS DRE

- Rotterdam section of ERSPC[1]: N = 10,523



- PCa screening study[2]: N = ±36,000: 14% detected by DRE alone
  - 20% non-organ-confined
  - 20% Gleason sum ≥ 7
- Low sensitivity - poor reproducibility

[1]Schröder FH et al. J Natl Cancer Inst 1998;90:1817-23; [2]Okotie OT et al. Urology 2007;70:1117-20

What do the guidelines say?

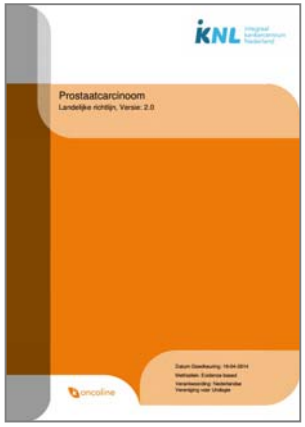
- EAU guidelines (2016): Decision to biopsy should be based on:
  - PSA
  - DRE
  - Other important variables: age, potential co-morbidities, therapeutic consequences

- NCCN guidelines (2016): Biopsy should be considered in men:
  - 45-75 years old
  - Serum PSA > 3.0 ng/mL
  - Other important variables: family history, PSA kinetics, ethnicity, health status and patient preference

- ESMO guidelines (2016): Decision to biopsy should be based on:
  - DRE findings
  - PSA
  - Other important variables: ethnicity, age, co-morbidities, family history, free/total PSA and history of previous biopsy

Wat zegt de NVU richtlijn over prostaatbiopsie?

- Klinische factoren zoals leeftijd (comorbiditeit), het rectaal toucher en in het bijzonder de aanwezigheid van BPH moeten worden meegenomen in de beslissing over het nemen van prostaatbiopten bij mannen met een PSA ≥ 3.0 ng/mL
- Het is aannemelijk dat risicowijzers en nomogrammen de efficiëntie van de besluitvorming tot het nemen van prostaatbiopten op basis van de PSA test verbeteren. Een voorwaarde is dat het model informatie bevat over het prostaatvolume en het model met acceptabel resultaat is gevalideerd



PSA follow-up

Could PSA follow-up (only) be an appropriate option for this patient?

– PSA follow-up only Hide evidence

Uncertain

Panel considerations

PSA follow-up only may be considered in the case of doubt about the appropriateness (benefit-risk balance) of prostate biopsy. The panel did (generally) not determine specific arguments in favour or against this option.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

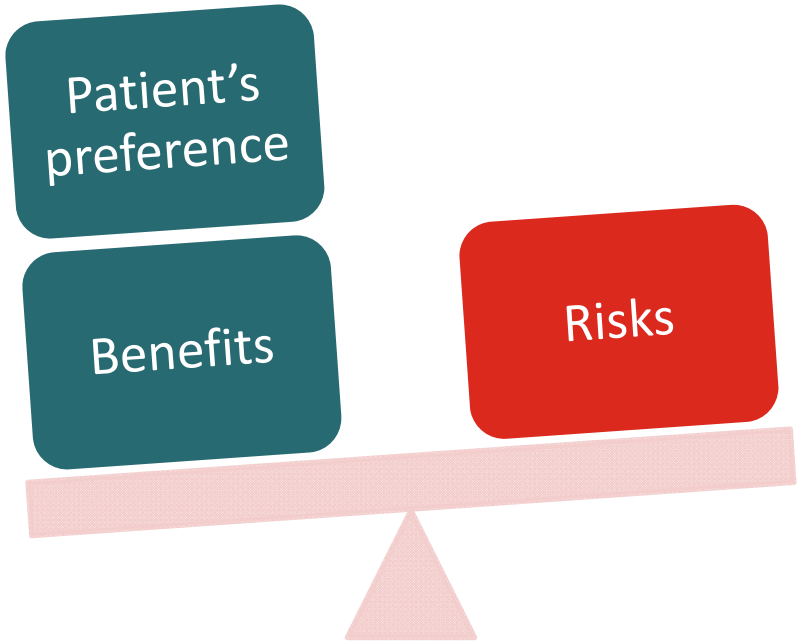
In men suspicious of prostate cancer, the decision to biopsy requires a careful balance of potential benefits and risks. In particular situations, PSA follow-up (12-24 weeks) may be favoured over immediate biopsy. However, there are no clinical or epidemiological studies that allow selection of specific patients benefiting most from a deferred biopsy decision.

Guidelines

The NCCN guidelines recommend that patients aged 45-75 years with a PSA > 3.0 ng/mL can either receive a biopsy, be followed with DRE and PSA measurements in 6-12 months (with a biopsy based on the results) or can be offered further risk assessment using %free PSA, 4Kscore or PHI [2]

PSA follow-up only versus immediate biopsy

BIOPSY



What do the guidelines say?

- EAU guidelines (2016): No recommendations

- NCCN guidelines (2016):
  - Patients aged 45-75 years with a PSA > 3.0 ng/mL:

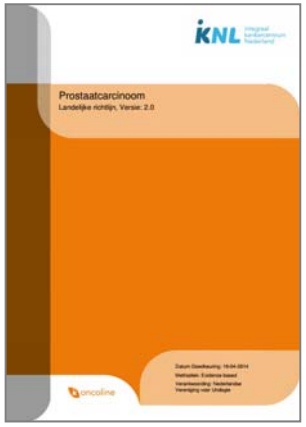
    1) Biopsy followed with DRE and PSA in 6-12 months

    Or 2) Risk assessment using %free PSA, 4Kscore or PHI

- ESMO guidelines (2016): No recommendations

Wat zegt de NVU richtlijn over PSA opvolging?

- Geen specifieke aanbevelingen over PSA opvolging als initiële keuze bij mannen die doorverwezen zijn naar de uroloog met een verdenking van prostaatkanker (PSA ≥ 3 ng/mL en/of verdacht rectaal toucher)



PCA3 test

Is PCA3 an appropriate option in patients without a previous biopsy?

PCA3 Close

Uncertain

Panel considerations

Although the PCA3 test is mainly indicated in the case of a negative biopsy, it may also be an option in some patients with no previous biopsy. The panel did not determine specific arguments in favour or against the PCA3 test in these patients.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

Prospective, multi-centre clinical studies including men suspicious for prostate cancer (i.e. suspicious DRE and/or elevated PSA level [> 2 ng/mL]) have shown that the PCA3 score was positively associated with the probability of a positive first biopsy outcome [1-3]. Men with a PCA3 score < 5 had a positive first biopsy rate of 14%, whereas 69% with a PCA3 score > 100 were biopsy positive [3].

Read in summary

Using a cut-off value of 20, the sensitivity of PCA3 for a positive first biopsy was 84% and the sensitivity 55% [1]. For a cut-off value of 60 the positive predictive value of PCA3 was 80%, the sensitivity was 42% and the specificity 91% [2].

Guidelines

The EAU guidelines state that the main current indication for the PCA3 test may be to determine whether a man needs a repeat biopsy after an initially negative first biopsy [5].

Read in summary

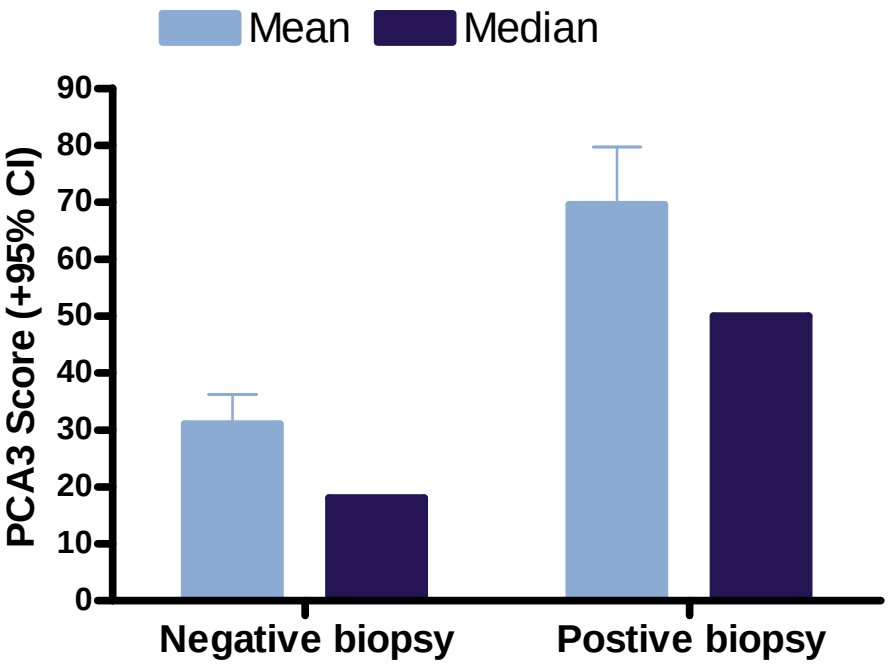
The NCCN guidelines discuss that PCA3 can be used as an additional test to make better informed biopsy decisions in men with a PSA 3-10 ng/mL and appears most useful in determining which patients should undergo a repeat biopsy [6].

Read in summary

PHNL/ZYT/0115/0002g(1)

PCA3 in men with an initial biopsy

- 516 European men with PSA 2.5-10 ng/mL scheduled for initial biopsy[1]
  99% of urine samples had sufficient mRNA for analysis
  207 men (40%) had a positive initial biopsy



The higher the PCA3 score, the higher the probability of a positive biopsy

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[1]de la Taille A et al. J Urol 2011;185:2119-25

PCA3 in men with an initial biopsy

- Study in 516 men with PSA 2.5-10 ng/mL scheduled for initial biopsy; 40% had a positive first biopsy[1]
- National Cancer Institute Early Detection Research Network (NCI EDRN) validation trial in 562 men scheduled for first biopsy[2]

PCA3 score	Sensitivity	Specificity	Positive predictive value
PCA3 score cut-off 20[1]	84%	55%	
PCA3 score cut-off 35[1]	64%	76%	
PCA3 score cut-off 60[2]	42%	91%	80%
Total PSA cut-off 4 ng/mL[1]	91%	16%	
% free PSA cut-off 25%[1]	90%	18%	

PHNL/ZYT/0115/0002g(1)

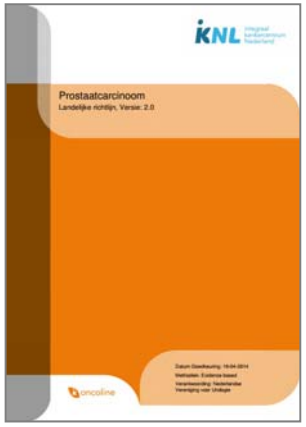
[1]de la Taille A et al. J Urol 2011;185:2119-25; [2]Wei JT et al. Clin Oncol 2014; 20;32:4066-72

What do the guidelines say?

- EAU guidelines (2016):
  - The main current indication for PCA3 is to determine the need for a repeat biopsy
- NCCN guidelines (2016):
  - PCA3 test is not recommended in men who did not have a prior biopsy
- ESMO guidelines (2016): No recommendation

Wat zegt de NVU richtlijn over PCA3?

- Aangezien PCA3 de uitkomst van het herhalingsbiopt verbetert, kan overwogen worden om na het eerste of tweede negatieve biopt een PCA3 test te verrichten



PHNL/ZYT/0115/0002g(1)

Antibiotics + PSA follow-up

Could antibiotics + repeat PSA be an appropriate option?

Antibiotics (and repeat PSA) Close

Inappropriate

Panel considerations

The panel considered empiric antibiotic therapy to be inappropriate in patients suspicious of prostate cancer, both in patients without a previous biopsy and in those with a negative first biopsy.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

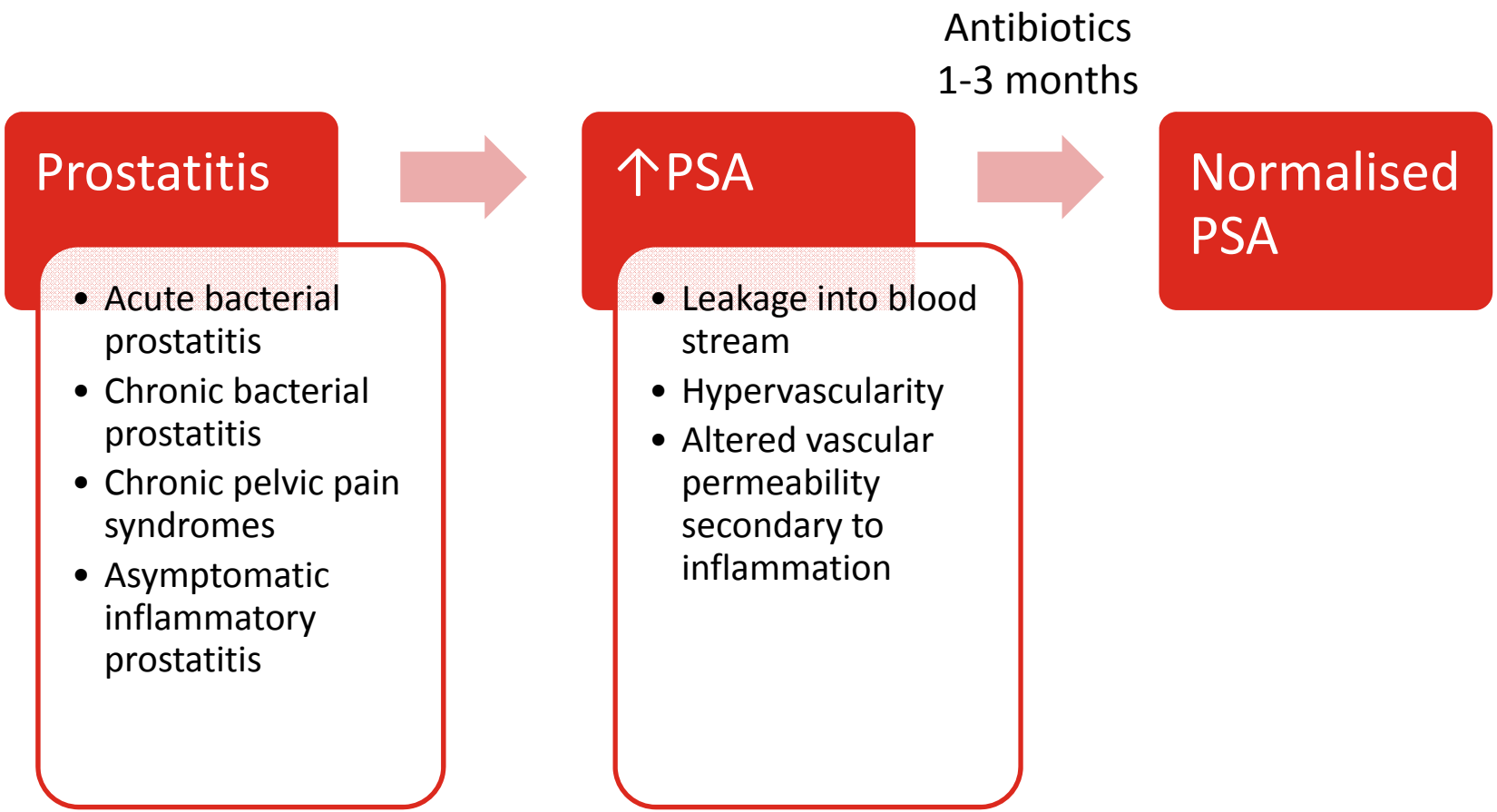
One of the causes of an elevated PSA level may be clinical prostatitis due to bacterial infection. In these cases repeat PSA after treatment with appropriate antibiotics (1-3 months) is indicated [1].

Studies into empiric antibiotic therapy in men with elevated PSA (> 2.5 ng/mL), a normal DRE and no signs of clinical prostatitis, showed no or minimal impact on PSA [2-4].

Guidelines

The international guidelines do not give recommendations regarding empirical antibiotic therapy and repeat PSA measurement for men with suspicion of prostate cancer who have not had a biopsy.

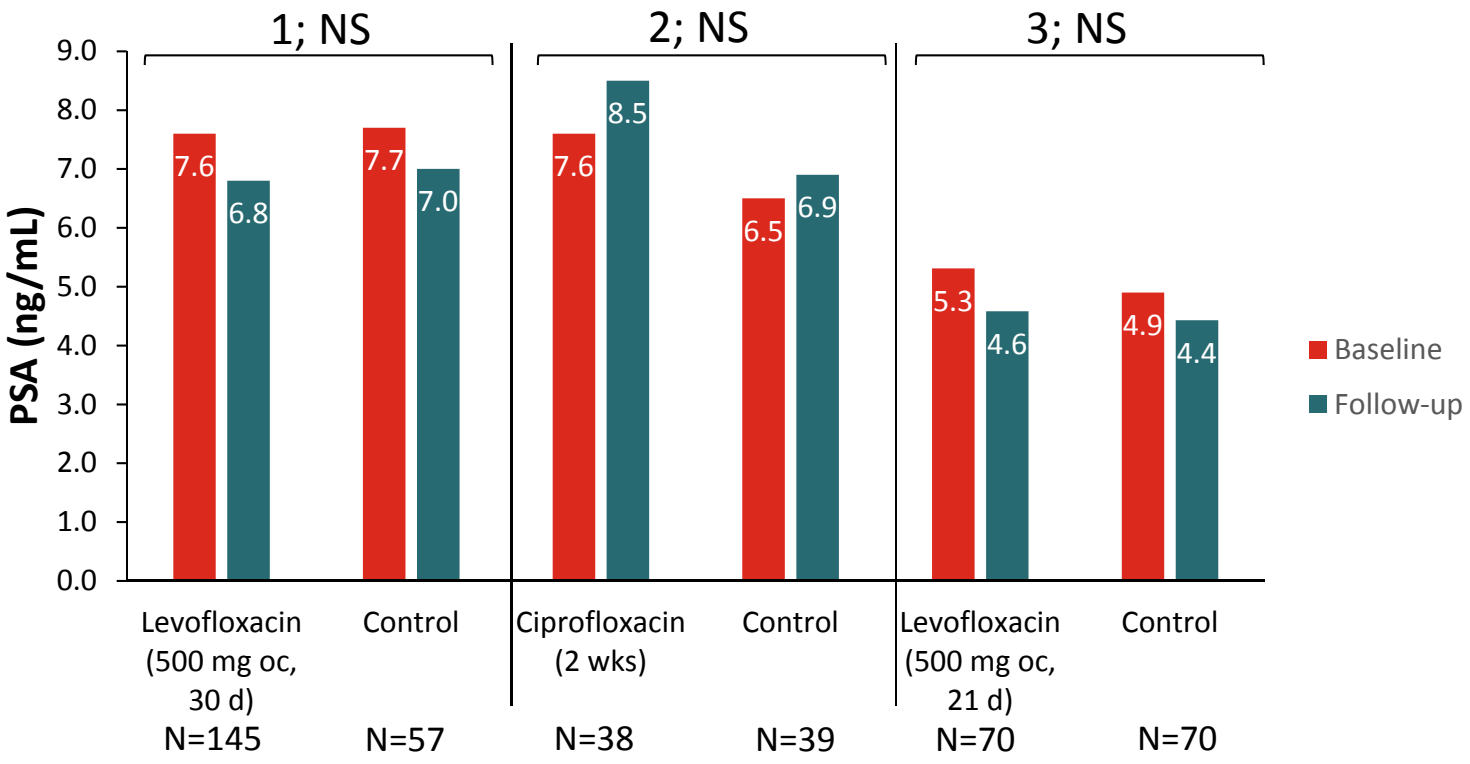
Prostatitis and PSA



Sindhwani P et al. Curr Urol Rep 2005;6:307-12

Antibiotics and PSA

- No impact of antibiotics in men with elevated PSA (> 2.5 ng/mL), a normal DRE and no signs of prostatitis[1-4]:



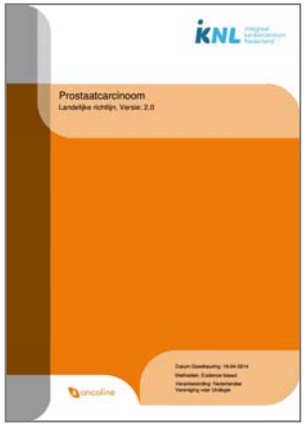
[1]Heldwein FL et al. BJU Int 2011;107:1576-81; [2]Eggener SE et al. BJU Int 2013;112:929-9; [3]Toktas G et al. J Endourol 2013;27:1061-7; [4]Yang L et al. Urol Oncol 2015;33:e17-24

What do the guidelines say?

- EAU guidelines (2016):
  - Should not be given in asymptomatic patients in order to lower the PSA level
- NCCN guidelines (2016): No recommendations
- ESMO guidelines (2016): No recommendations

Wat zegt de NVU richtlijn over empirische behandeling met antibiotica?

- Geen specifieke aanbevelingen over empirische behandeling met antibiotica (en herhaalde PSA-meting) bij mannen die doorverwezen zijn naar de uroloog met een verdenking van prostaatkanker (PSA ≥ 3 ng/mL en/of verdacht rectaal toucher)



Multiparametric MRI (mp-MRI)

Could multiparametric MRI be an appropriate option in men without a previous biopsy?

MRI (multi-parametric) Close

Uncertain

Panel considerations

The panel considered multiparametric MRI usually to be inappropriate or uncertain in most patients without a previous prostate biopsy. It may be considered in very specific situations.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

Multiparametric MRI has a good diagnostic accuracy in detecting (clinically significant) prostate cancer when compared with histopathologic data from biopsy or prostatectomy specimens [1,2]. A meta-analysis of 7 diagnostic accuracy studies showed a specificity of 88% and sensitivity of 74% for PCa detection [1]. A systematic review including 12 studies described that the detection of clinically significant PCa using multiparametric MRI ranged from 44-87% and the negative predictive value for exclusion of clinically significant disease ranged from 63-98% [2].

Read in summary

Data on the feasibility and prerequisites of multiparametric MRI in daily clinical practice is lacking. Its application is currently predominantly limited by the availability of MRI facilities.

Guidelines

The EAU guidelines state that multiparametric MRI can be used to trigger a (targeted) repeat biopsy [3].

Read in summary

The NCCN guidelines do not recommend baseline imaging with MRI in men with suspicion of prostate cancer who have not had a biopsy [4].

Read in summary

The ESMO guidelines state that MRI is a promising tool but needs further research to establish its role [5].

Diagnostic accuracy of multiparametric (mp)-MRI

- Meta-analysis of 7 diagnostic accuracy studies for PCa detection[1] (N=526):
  - Specificity: 88% (95% CI: 82-92%)
  - Sensitivity: 74% (95% CI: 66-81%)
- Systematic review of 12 studies[2]:

Using mp-MRI	Range
Detection of clinically significant PCa	44-87%
NPV for exclusion of clinically significant PCa	63-98%

Mp-MRI has a good diagnostic accuracy in detecting PCa
BUT data are lacking on:
- Feasibility
- Prerequisites

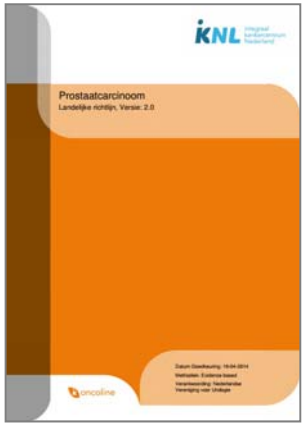
[1]de Rooij M et al. Am J Roentgenol 2014;202:343-51;
[2]Fütterer JJ et al. Eur Urol 2015;1doi10.1016/j.eurouro.2015.01.013

What do the guidelines say?

- EAU guidelines (2016):
  - The use of mpMRI before a biopsy in the initial biopsy setting is not recommended.
- NCCN guidelines (2016):
  - MRI is not recommended in men with suspicion of PCa who have not had a biopsy
- ESMO guidelines (2016):
  - mp-MRI is recommended before a repeat biopsy with the intention to perform an MRI-guided or MRI-TRUS fusion biopsy

Wat zegt de NVU richtlijn over mp-MRI?

- Bij patiënten met blijvende of sterke klinische verdenking op prostaatcarcinoom wordt multiparametrische MRI (indien beschikbaar) aanbevolen, met inachtneming van de ESUR consensus based richtlijnen voor techniek en beoordeling (2012)



What is the first step before you w take prostate biopsies in this patient?

Stemronde geopend

1. MRI

2. No further investigation. Just take biopsies

3. Gather items for you nomogram for predicting positive biopsies (prostaatwijzer 3)

4. At least one PSA a few weeks later from the PSA of 3.7, to be sure of a rise in PSA

Stemronde geopend

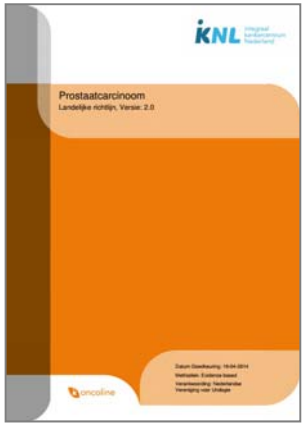
Recommendations in the NVU guideline regarding use of the CT-scan in the stagering (TNM) of PCa are:

1. Determination of the local status of the prostate (T)
2. Identification of skeletal involvement (M)
3. Puncture guidance of lymph nodes suspected of metastasis (N)
4. Determine the lymph node status (N)

Wat zegt de NVU richtlijn over de CT-scan?

Gebruik van een CT-scan wordt niet aanbevolen voor de diagnostiek en lokale- en lymfeklierstagering van het prostaatcarcinoom.

Een CT-scan kan van waarde zijn bij de geleiding van punctie van voor metastase verdachte lymfeklieren.



Patient case 1 - No previous biopsy

- 68 yr old, retired fireman
- Complaints of fatigue due to nocturia, is afraid of cancer
- GP consultation: PSA 3.2 ng/mL, DRE: enlarged, not suspicious
- PSA at urologist consultation: 3.7 ng/mL
- Prostate examination:
  - Volume: 40 cc
  - DRE: normal
- No comorbidities

Previous biopsy	No
PSA	3-10 ng/mL
Prostate volume	30-60 cc
DRE	Normal
Life expectancy	≥ 10 years

What would be the most appropriate next step?

Clinical variables: patient case 1

PSA (ng/mL)

< 3	3-10	> 10

Prostate volume (cc)

< 30	30-60	> 60

Results of DRE

Normal	Suspicious

Life expectancy

≥ 10 years	< 10 years

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What would be the most appropri treatment for this patient?

Stemronde geopend

1. Prostate biopsy

66,7%

2. PSA follow-up only

33,3%

3. PCA3

0,0%

4. Antibiotics (and repeat PSA)

0,0%

5. MRI (multi-parametric)

0,0%

Comparison of voting results

1st voting
2nd voting

1. Prostate biopsy
2. PSA follow-up only
3. PCA3
4. Antibiotics (and repeat PSA)
5. MRI (multi-parametric)

Patient case 1

Case change

What if the previous patient …..

- Bit older: 76 years, retired fireman
- Complaints of fatigue due to nocturia, afraid of cancer
- PSA at consultation: 2.8 ng/mL
- Prostate examination:
  - Volume: 40 cc
  - DRE: irregular shape, suspicious
- Hypertension (not well controlled)

Previous biopsy	No
PSA	< 3 ng/mL
Prostate volume	30-60 cc
DRE	Suspicious
Life expectancy	< 10 years

What would be the most appropriate diagnostic option for this patient?

Clinical variables: pt 1 case change

PSA (ng/mL)

< 3	3-10	> 10

Prostate volume (cc)

< 30	30-60	> 60

Results of DRE

Normal	Suspicious

Life expectancy

≥ 10 years	< 10 years

What have we learned from this patient case?

For this profile the available choices are:

Click on the choices to see the panel considerations, evidence and guidelines behind these results.

- Prostate biopsy
- PSA follow-up only
- PCA3
- Antibiotics (and repeat PSA)
- MRI (multi-parametric)

For this profile the available choices are:

Click on the choices to see the panel considerations, evidence and guidelines behind these results.

- Prostate biopsy
- PSA follow-up only
- PCA3
- Antibiotics (and repeat PSA)
- MRI (multi-parametric)

When will you perform prostate biopsy in this patient?

Stemronde geopend

1. Immediately, there is a suspicious DRE

   29%

2. Only if PSA will increase over time

   0%

3. After informing the patient well about the pro's and con's of prostate biopsies in this specific case

   71%

4. Not anymore, because this patient will not die from prostate cancer

   0%

10

Key messages - No previous biopsy

- Prostate biopsy is the current standard for men with elevated PSA and/or suspicious DRE
- PSA follow-up only may be an option in selective patients
- Role of PCA3 predominantly in patients with a negative biopsy, but it may also be an option in some patients without a previous biopsy and PSA 3-10 ng/mL
- Antibiotics + repeat PSA is never an appropriate option
- MRI (multiparametric) is a promising technique, but in patients without a previous biopsy currently advised only in very specific cases

Patient case 2

Negative first biopsy

Patient case 2 - Negative first biopsy

- 58 years old, school teacher
- Recent (first) prostate biopsy because of elevated PSA (case finding)
- Findings at the time of the first biopsy
  - PSA: 10.8 ng/mL
  - Prostate volume: 40 cc
  - DRE: normal
- Biopsy: negative
- No co-morbidities

Previous biopsy	1 negative
PSA	> 10 ng/mL
Prostate volume	30-60 cc
DRE	Normal
Life expectancy	≥ 10 years

What would be the most appropriate diagnostic option?

Clinical variables: patient 2

PSA (ng/mL)

3-10	> 10

Prostate volume (cc)

< 30	30-60	> 60

Results of DRE

Normal	Suspicious

Life expectancy

≥ 10 years	< 10 years

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What would be the most appropri treatment for this patient?

Stemronde geopend

1. No further action

   0%

2. Repeat biopsy (6-12 weeks)

   0%

3. Repeat PSA (12-24 weeks)

   14%

4. PCA3

   0%

5. Antibiotics (and repeat PSA)

   0%

6. MRI (multi-parametric)

   86%

10

What do the MoM experts recommend?

Click on the variables to change the patient profile.

PSA (ng/mL)

> 10

Prostate volume (cc)

30-60

Results of DRE

Normal

Life expectancy

≥ 10 years

For this profile the available choices are:

Click on the choices to see the panel considerations, evidence and guidelines behind these results.

- No further action
- Repeat biopsy (6-12 weeks)
- Repeat PSA (12-24 weeks)
- PCA3
- Antibiotics (and repeat PSA)
- MRI (multi-parametric)

Last update: 31/03/2015 **Read more**

Appropriate · Uncertain · Inappropriate · Not applicable

No further action

Why is “no further action” an inappropriate option in this patient?

No further action

Close

Inappropriate

Panel considerations

The panel considered ‘no further action’ (no other procedures or follow-up activities) to be inappropriate for most patients with a negative first biopsy and a life expectancy ≥ 10 years.

Don't agree? **Tell us why.**

Share this recommendation

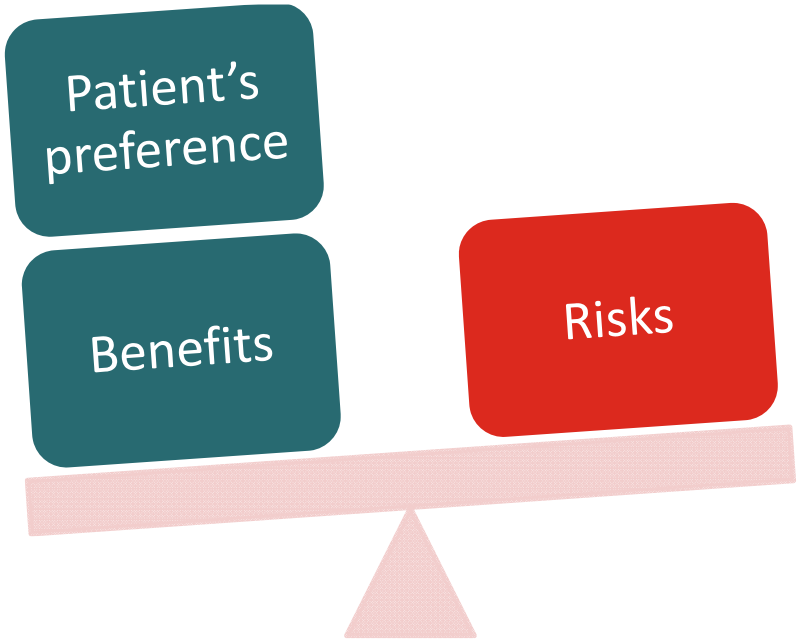
Evidence

When deciding on the next step after a negative first prostate biopsy, the potential benefits and risks of the various options should be carefully balanced. Though direct evidence from clinical or epidemiological studies is lacking, there may be (patient-specific) reasons for abandoning any further tests or interventions.

Guidelines

The international guidelines do not give recommendations regarding ‘no further action’ in men with suspicion of prostate cancer who have had a negative first biopsy.

“Doing nothing”: balancing benefits and risks…



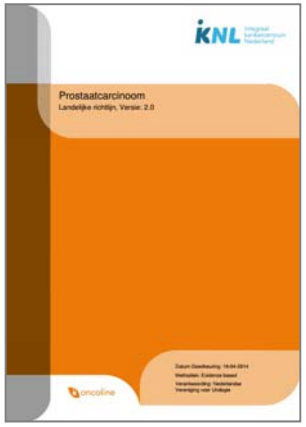
PHNL/ZYT/0115/0002g(1)

What do the guidelines say?

- EAU guidelines (2016): No recommendations
- NCCN guidelines (2016): No recommendations
- ESMO guidelines (2016): No recommendations

Wat zegt de NVU richtlijn over ‘geen actie’?

- Geen expliciete criteria voor het afzien van verdere actie na een negatieve eerste biopsie
- Wel wordt aangegeven dat bij klinische verdenking op maligniteit tenminste één keer de serie biopten dient te worden herhaald, bij voorkeur na (mp)MRI



Repeat biopsy (6-12 weeks)

Repeat biopsy (6-12 weeks)

Repeat biopsy (6-12 weeks) Close

Appropriate

Panel considerations

In patients with a negative first biopsy, repeat biopsy (after 6-12 weeks) was usually considered appropriate in patients with a life expectancy ≥ 10 years.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

The most recent studies into the diagnostic yield of repeat biopsy in men with (persistent) suspicion of prostate cancer who had one or more prior negative biopsies, report a positive outcome in around 17% of patients [1-3].

In a prospective observational study, a positive outcome of repeat biopsy was significantly higher in patients with PSA > 6 ng/mL, PSA density > 0.15 ng/mL/g, free-to-total PSA ratio < 15, and/or prostate volume < 50 mL[2].

In an earlier cohort in this study, 85% of tumours found at repeat biopsy were clinically significant, though most were localized and well-differentiated [1].

Guidelines

The EAU guidelines state that the indications for a repeat biopsy are [4]: o a rising and/or persistently elevated PSA level o a suspicious DRE o atypical small acinar proliferation (ASAP) on prior biopsy o extensive (multiple biopsy sites) prostatic intra-epithelial neoplasia (PIN) on prior biopsy.

The NCCN guidelines discuss that a consideration for repeat biopsy may be based on risk stratification (PSA, age, family history, etc.) and/or the use of biomarkers that improve specificity, such as PCA3 and % free PSA. Patients with ASAP and multifocal high-grade PIN on prior biopsy should have a repeat extended biopsy within 3-6 months [5].

The ESMO guidelines recommend that the decision whether or not to have a biopsy should be made in the light of PSA level, DRE findings, history of previous biopsy, prostate size, age, ethnicity, co-morbidities, family history and patient values [6,7].

Read in summary

Outcomes of repeat biopsy

- Recent studies:
  - ± 17% PCa in patients after prior negative biopsies[1-3]
  - Most tumours: localised and well-differentiated, still 85% clinically significant (tumour volume >0.5 cc, Gleason sum ≥7 and/or pT3)[1]
  - Predictive factors of PCa detection based on a prospective, observational study[2] (N=617):

PSA > 6 ng/mL	PSAD > 0.15ng/mL/g	%fPSA > 15	Prostate volume < 50 mL

[1]Campos-Fernandes JL et al. Eur Urol 2009;55:600-6;
[2]Ploussard G et al. BJU Int 2013;111:988-96;
[3]Pepe P et al. Arch Ital Urol Androl 2010;82:95-9.

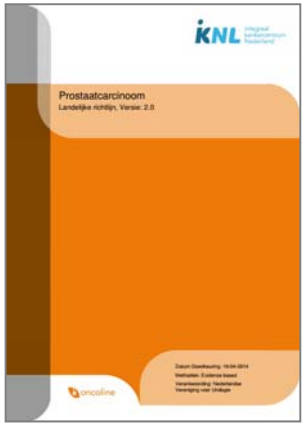
What do the guidelines say?

- EAU guidelines (2016): Indications for repeat biopsy:
  - Rising or persistently elevated PSA level
  - Suspicious DRE
  - ASAP on prior biopsy
  - Extensive high-grade HGPIN on prior biopsy
  - A few atypical glands immediately adjacent to HGPIN
- NCCN guidelines (2016): Consideration for repeat biopsy:
  - Based on follow-up (6-12 months) with PSA and DRE
  - Use of biomarkers which improve specificity and mp-MRI may be of value

  → Repeat biopsy within 6 months
  - ASAP on prior biopsy
  - Multifocal HGPIN on prior biopsy
- ESMO guidelines (2016): Indications for repeat biopsy:
  - Rising PSA, suspicious DRE, abnormal MRI, ASAP, multifocal HGPIN

Wat zegt de NVU richtlijn over herhaalbiopsie?

- Bij klinische verdenking op maligniteit en een negatieve eerste biopsie dient tenminste één keer de serie biopten te worden wordt herhaald, bij voorkeur na een (multiparametrische) MRI



Repeat PSA (12-24 weeks)

Is repeat PSA (12-24 weeks) an appropriate option for men with a negative first biopsy?

Repeat PSA (12-24 weeks) Close

Appropriate

Panel considerations

PSA follow-up (after 12-24 weeks) in the case of negative first biopsy was usually considered an appropriate option in patients with a life expectancy ≥ 10 years.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

Appropriate steps following a negative biopsy are mainly dependent on the risk of (non-indolent) prostate cancer of which the PSA value is currently the best predictor. If the risk is acceptable, PSA follow-up is usually sufficient. There is no evidence from clinical or epidemiological studies that could directly support particular cut-off points for 'acceptable risk' or timing and periodicity of follow-up.

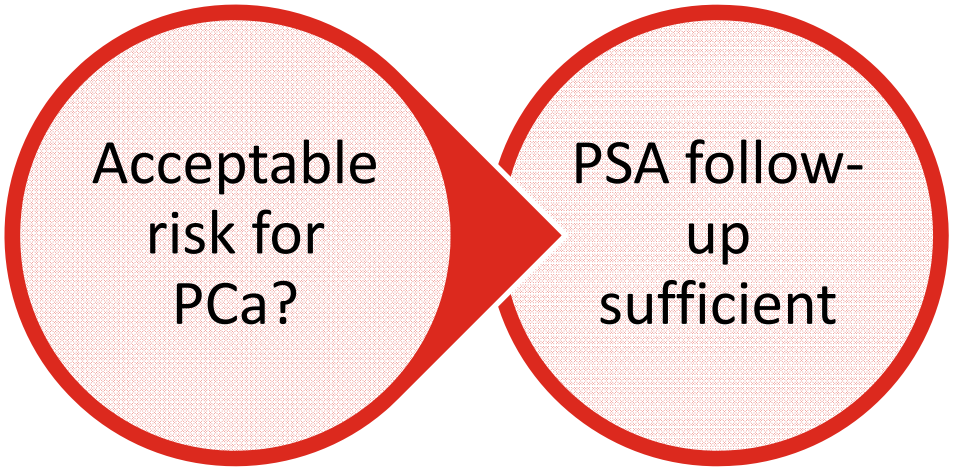
Guidelines

The NCCN guidelines recommend that patients with suspicion of prostate cancer who had a negative first biopsy should be followed with DRE and PSA measurements at 1 year intervals initially [1].

The EAU and ESMO guidelines do not give guidance on a repeat PSA measurement in men with suspicion of prostate cancer who have had a negative first biopsy.

PHNL/ZYT/0115/0002g(1)

Repeat PSA: a matter of risk assessment

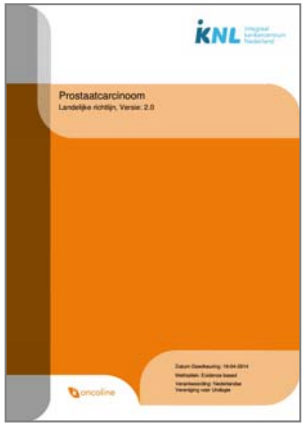


What do the guidelines say?

- EAU guidelines (2016):
  - No recommendations
- NCCN guidelines (2016):
  - Patients with suspicion for PCa after a negative first biopsy can be followed with DRE and PSA in 6-12 months (with a repeat biopsy based on the results)
- ESMO guidelines (2016):
  - No recommendations

Wat zegt de NVU richtlijn over PSA opvolging?

- Geen specifieke aanbevelingen over herhaling van de PSA-meting na een eerste negatieve biopsie



PCA3 test

Is PCA3 a useful option for men with a negative first biopsy?

PCA3 Close

Appropriate

Panel considerations

In patients with a negative first biopsy, the panel considered PCA3 an appropriate option in most patients with a life expectancy ≥ 10 years.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

The PCA3 test has mainly been studied in prospective cohort studies including men with an elevated PSA level (> 2.5 ng/mL) and/or a suspicious DRE having one or more prior negative biopsies [1-4]. These studies have shown that the PCA3 score was significantly higher in men with a positive repeat biopsy vs. a negative repeat biopsy and that an increasing PCA3 score corresponded with an increasing probability of a positive repeat biopsy [1-4]. Men with a PCA3 score < 10 had a positive repeat biopsy rate of 6-12%, whereas 47-57% with a PCA3 score > 100 were biopsy positive [2,3].

Read in summary

Guidelines

The EAU guidelines state that the main current indication for the PCA3 test may be to determine whether a man needs a repeat biopsy after an initially negative first biopsy [6].

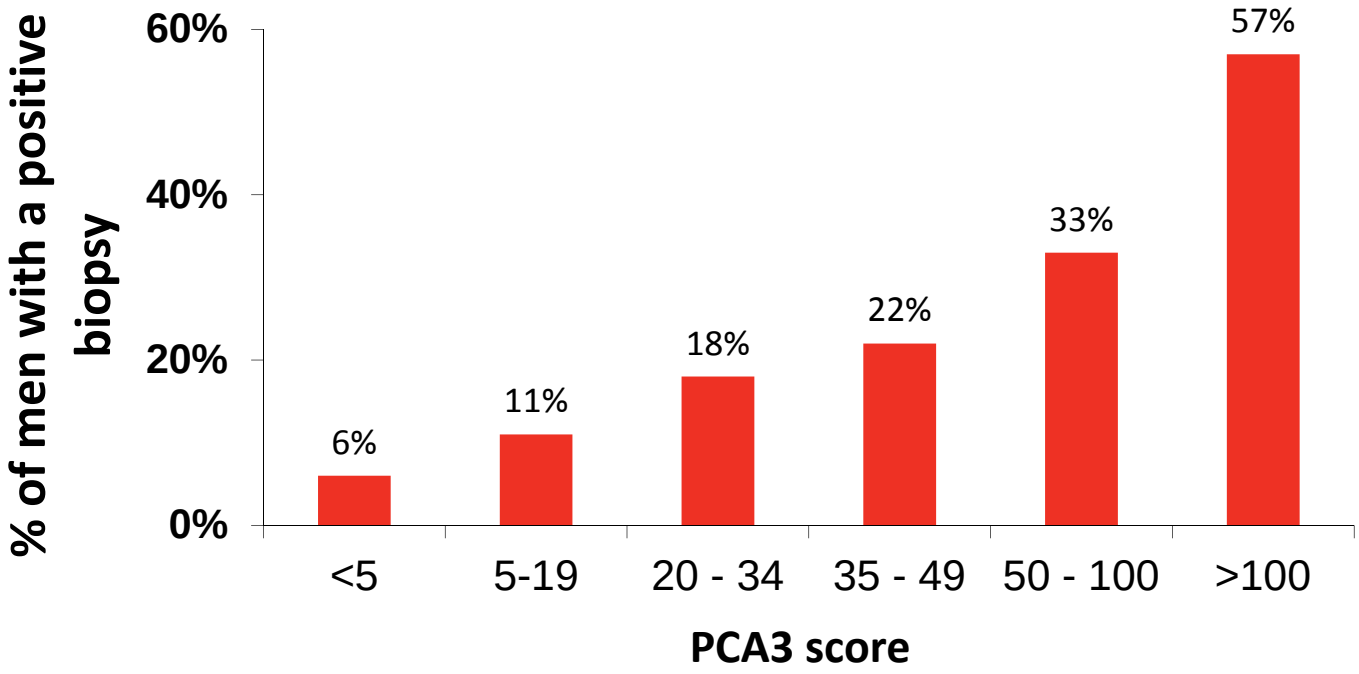
Read in summary

The NCCN guidelines discuss that PCA3 can be used as an additional test to make better informed biopsy decisions in men with a PSA 3-10 ng/mL and appears most useful in determining which patients should undergo a repeat biopsy [7].

Read in summary

PCA3 and repeat biopsy (1)

- Study in 1,072 men scheduled for repeat biopsy; 190 men (17%) had a positive repeat biopsy



The higher the PCA3 score, the higher the probability of a repeat positive biopsy

Aubin SMJ, et al. J Urol 2010;184:1947-52

PCA3 and repeat biopsy (2)

- Study in 466 scheduled for repeat biopsy; 22% had a positive repeat biopsy[1]
- National Cancer Institute Early Detection Research Network (NCI EDRN) validation trial in 562 men scheduled for repeat biopsy[2]
- Study in 470 men with 1-2 prior negative biopsies scheduled for repeat biopsy; 28% had a positive repeat biopsy[3]

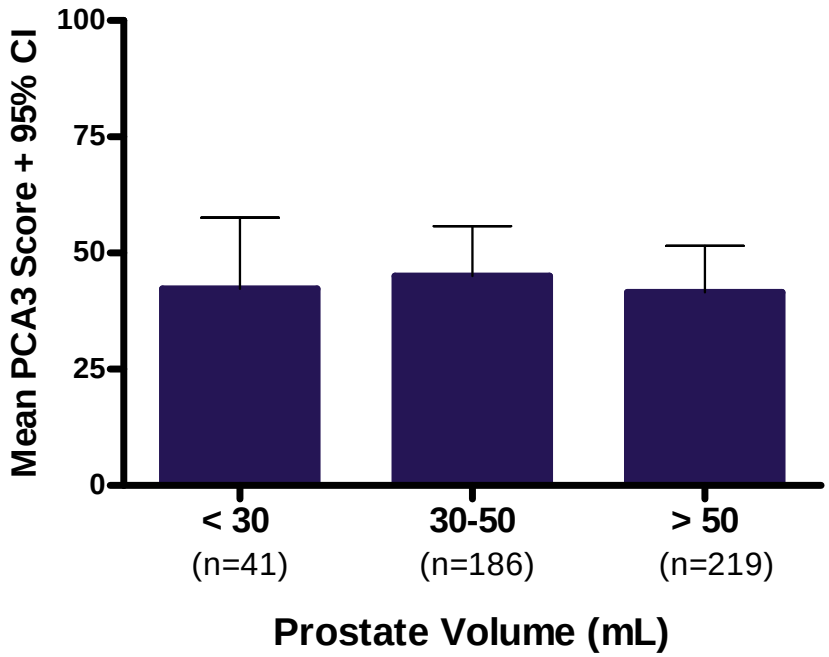
PCA3 score	Sensitivity	Specificity	PPV	NPV
PCA3 score cut-off 25[1]	78%	57%	34%	90%
PCA3 score cut-off 20[2]	76%	52%		88%
PCA3 score cut-off 20[3]	73%	51%		
% free PSA cut-off 25%[3]	83%	23%		

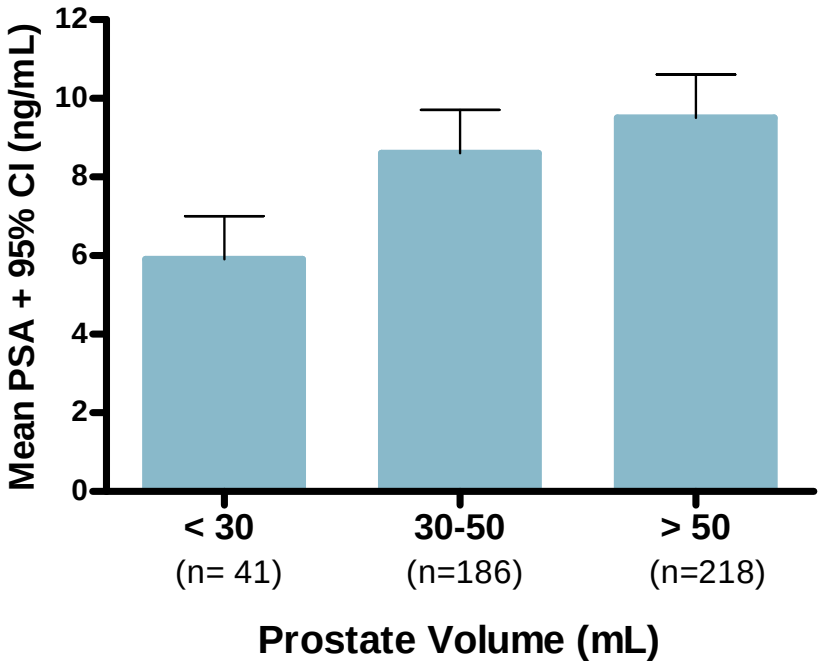
PPV: positive predictive value; NPV: negative predictive value

[1]Gittelman M, et al. J Urol 2013;190:64-9;
[2]Wei JT, et al. Clin Oncol 2014;20;32:4066-72;
[3]Haese A, et al. Eur Urol 2008;54:1081-8

PCA3 and repeat biopsy (3)

- Study in 445 men with 1-2 previous negative biopsies scheduled for repeat biopsy





The PCA3 score is not affected by prostate volume

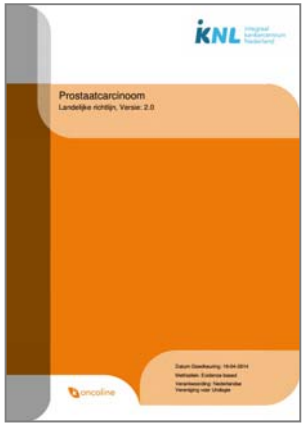
Haese A, et al. Eur Urol 2008;54:1081-8

What do the guidelines say?

- EAU guidelines (2016):
  - The main current indication for PCA3 is to determine the need for a repeat biopsy
- ESMO guidelines (2016): No recommendation
- NCCN guidelines (2016):
  - Consideration may be given to PCA3 to inform decisions regarding repeat biopsy despite a negative biopsy

Wat zegt de NVU richtlijn over PCA3?

- Aangezien PCA3 de uitkomst van het herhalingsbiopt verbetert, kan overwogen worden om na het eerste of tweede negatieve biopt een PCA3 test te verrichten



Antibiotics + repeat PSA

Antibiotics + repeat PSA also inappropriate in patients with a negative first biopsy

Antibiotics (and repeat PSA) Close

Inappropriate

Panel considerations

The panel considered empiric antibiotic therapy to be inappropriate in patients suspicious of prostate cancer, both in patients without a previous biopsy and in those with a negative first biopsy.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

One of the causes of an elevated PSA level may be clinical prostatitis due to bacterial infection. In these cases repeat PSA after treatment with appropriate antibiotics (1-3 months) is indicated [1].

Studies into empiric antibiotic therapy in men with elevated PSA (> 2.5 ng/mL), a normal DRE and no signs of clinical prostatitis, showed no or minimal impact on PSA [2-4].

There is no evidence supporting empiric antibiotic therapy in men with a negative first biopsy and (persistent) elevated PSA.

Guidelines

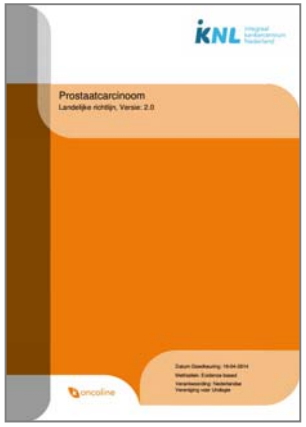
The international guidelines do not give recommendations regarding empirical antibiotic therapy and repeat PSA measurement for men with a negative first biopsy and persisting suspicion of prostate cancer.

What do the guidelines say?

- EAU guidelines (2016): AB should not be given
- ESMO guidelines (2016): No recommendation
- NCCN guidelines (2016): No recommendation

Wat zegt de NVU richtlijn over empirische behandeling met antibiotica?

- Geen specifieke aanbevelingen over empirische behandeling met antibiotica (en herhaalde PSA-meting) na een eerste negatieve biopsie



Multiparametric MRI (mp-MRI)

What is the role of multiparametric MRI in men with a negative first biopsy?

MRI (multi-parametric) Close

Appropriate

Panel considerations

In patients with a negative first biopsy, the panel considered multiparametric MRI always an appropriate option in patients with a life expectancy ≥ 10 years.

Don't agree? **Tell us why.**

Share this recommendation

Evidence

Multiparametric MRI has a good diagnostic accuracy in detecting (clinically significant) prostate cancer when compared with histopathologic data from biopsy or prostatectomy specimens [1,2]. A meta-analysis of 7 diagnostic accuracy studies showed a specificity of 88% and sensitivity of 74% for PCa detection [1]. A systematic review including 12 studies described that the detection of clinically significant PCa using multiparametric MRI ranged from 44-87% and the negative predictive value for exclusion of clinically significant disease ranged from 63-98% [2].

Read in summary

Data on patients with previous negative biopsies showed good sensitivity and moderate to good sensitivity for PCa detection with mpMRI [3-5].

Data on the feasibility and prerequisites of multiparametric MRI in daily clinical practice is lacking. Its application is currently predominantly limited by the availability of MRI facilities.

Guidelines

The EAU guidelines state that multiparametric MRI can be used to trigger a (targeted) repeat biopsy [6].

Read in summary

The NCCN guidelines do not recommend baseline imaging with MRI in men with suspicion of prostate cancer who have not had a biopsy [7].

Read in summary

The ESMO guidelines state that MRI is a promising tool but needs further research to establish its role [8].

Diagnostic accuracy of multiparametric (mp)-MRI (1)

- Meta-analysis of 7 diagnostic accuracy studies for PCa detection[1] (N=526):
  - Specificity: 88% (95%CI: 82-92%)
  - Sensitivity: 74% (95%CI: 66-81%
- Systematic review of 12 studies[2]:

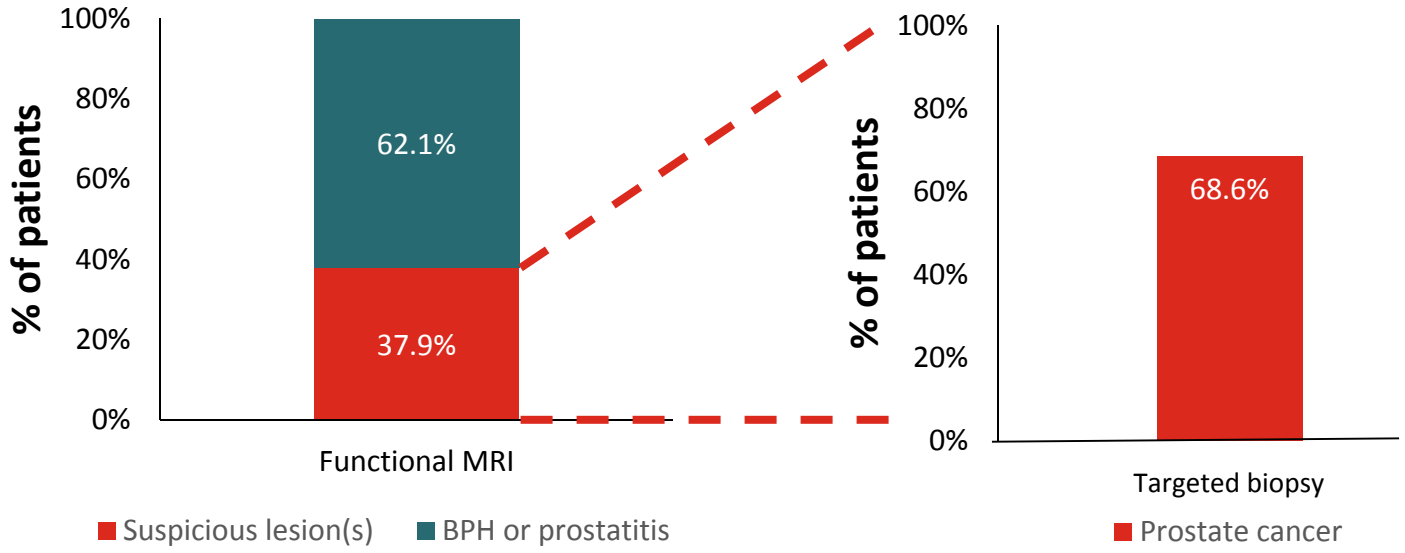
Using mp-MRI	Range
Detection of clinically significant PCa	44-87%
NPV for exclusion of clinically significant PCa	63-98%

Mp-MRI has a good diagnostic accuracy in detecting PCa.
BUT data are lacking on:
- Feasibility
- Prerequisites

[1]de Rooij M et al. Am J Roentgenol 2014;202:343-51;
[2]Fütterer JJ et al. Eur Urol 2015;1doi10.1016/j.eurouro.2015.01.013

Diagnostic accuracy of mp-MRI (2)

- Pilot study in 58 patients[1] (≥1 previous negative biopsy, persistently increased PSA, unsuspicious DRE)



- Accuracy of mp-MRI in 2 prospective studies:

Study	N	Sensitivity	Specificity
Labanaris AP[2]	260	80.8	73.9
Panebianco V[3]	150	93.7	90.7

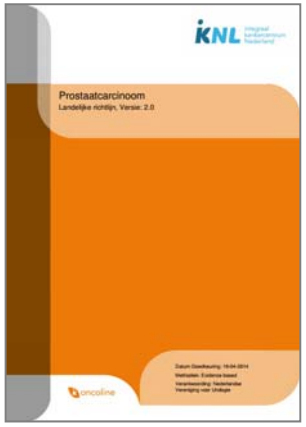
[1]Arsov C et al. Anticancer Res 2012;32:1087-92; [2]Labanaris AP et al. Prostate Cancer Prostatic Dis 2010;13:65-70; [3]Panebianco V et al. Radiol Med 2010;115:1314-29

What do the guidelines say?

- EAU guidelines (2016):
  - Mp-MRI may be useful in the repeat biopsy setting
  - Inter-reader variability remains a concern
- NCCN guidelines (2016):
  - Mp-MRI should be considered in selected cases after ≥ 1 negative biopsy
- ESMO guidelines (2016):
  - Mp-MRI is recommended before a repeat biopsy with the intention to perform a MRI-guided or MRI-TRUS fusion biopsy

Wat zegt de NVU richtlijn over mp-MRI?

- Bij patiënten met een negatieve echogeleide biopt sessie en blijvende klinische verdenking op prostaatcarcinoom dient men bij voorkeur een multi-parametrisch MRI onderzoek toe te passen, met inachtneming van de richtlijnen voor techniek en beoordeling die daartoe door Europese prostaat MRI-experts zijn opgesteld (ESUR consensus based richtlijnen 2012)



Stemronde geopend

What would be the most appropriate treatment for this patient?

1. No further action

   0%

2. Repeat biopsy (6-12 weeks)

   0%

3. Repeat PSA (12-24 weeks)

   0%

4. PCA3

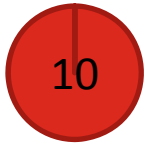
   0%

5. Antibiotics (and repeat PSA)

   0%

6. MRI (multi-parametric)

   100%



Comparison of voting results

1st voting

2nd voting

1. No further action
   0%
   0%
2. Repeat biopsy (6-12 weeks)
   0%
   0%
3. Repeat PSA (12-24 weeks)
   14%
   0%
4. PCA3
   0%
   0%
5. Antibiotics (and repeat PSA)
   0%
   0%
6. MRI (multi-parametric)
   86%
   100%

Patient case 2

Case change

What if the previous patient would have a lower PSA but larger prostate?

- 58 years old, school teacher
- Recent (first) prostate biopsy because of elevated PSA (case finding)
- Findings at the time of the first biopsy
  - PSA: 4.2 ng/mL
  - Prostate volume: 65 cc
  - DRE: normal
- Biopsy: negative
- No co-morbidities

Previous biopsy	1 negative
PSA	3-10 ng/mL
Prostate volume	> 60 cc
DRE	Normal
Life expectancy	≥ 10 years

What would be the most appropriate diagnostic option?

Clinical variables: pt 2 case change

PSA (ng/mL)

< 3	3-10	> 10

Prostate volume (cc)

< 30	30-60	> 60

Results of DRE

Suspicious

Life expectancy

≥ 10 years	< 10 years

PHNL/ZYT/0115/0002g(1)

What have we learned from this patient case?

For this profile the available treatments are:

Click on the treatments to see the panel considerations, evidence and guidelines behind these results.

- No further action
- Repeat biopsy (6-12 weeks)
- Repeat PSA (12-24 weeks)
- PCA3
- Antibiotics (and repeat PSA)
- MRI (multi-parametric)

For this profile the available choices are:

+ No further action	View evidence
+ Repeat biopsy (6-12 weeks)	View evidence
+ Repeat PSA (12-24 weeks)	View evidence
+ PCA3	View evidence
+ Antibiotics (and repeat PSA)	View evidence
+ MRI (multi-parametric)	View evidence

Stemronde geopend

Next: longer follow-up on PSA

After 12 months PSA has increased to 5.1 ng/mL

PSA was 4.2 ng/mL before

What will be your approach?

1. 1. No further action

   0%

2. 2. Repeat biopsy

   0%

3. 3. MRI

4. 4. MRI and PCA3 cq quattro

   0%

Stemronde geopend

Next: longer follow-up on PSA

You decided on MRI combined with PCA3

Outcome: both tests show normal results

What will be your approach?

1. 1. No further action

   0%

2. 2. Repeat PSA after 3 months

   100%

3. 3. Repeat biopsy nevertheless

   0%

If you perform an mp-MRI of the prostate what will be the next step?

Stemronde geopend

1. MRI guided biopsies of lesions PIRAD score 4 or 5

   0%

2. MRI guided biopsies of lesions PIRAD score 4 or 5 and random biopsies

   100%

3. Fusion biopsies with ultrasound of lesions PIRAD score 4 or 5

   0%

4. Fusion biopsies with ultrasound of lesions PIRAD score 4 or 5 and random biopsies

   0%

Key messages - Negative first biopsy

- In patients with a negative first biopsy, benefits and risks of different of further diagnostic tests should be carefully balanced, also in relation to patient preferences
- Repeat biopsy and PSA follow-up are both appropriate options in men with a life expectancy ≥ 10 years, but should be considered in the light of DRE, PSA, and ASAP/PIN findings in the first biopsy
- PCA3 and mp-MRI are both useful (additional) tests for determining the need for repeat biopsy

Thank you

Mirrors of medicine

Evaluatie

1. Hoe waardeert u de inhoud? **1 2 3 4 5**
2. Module 3: Diagnosis of prostate cancer **1 2 3 4 5**
3. Module 4: Biochemical recurrence after radical treatment **1 2 3 4 5**
4. Door de nascholing heb ik meer inzicht gekregen in de behandeling van prostaatkanker en mijn kennis ervan vergroot **1 2 3 4 5**
5. Ik wil graag een persoonlijk account aanmaken **1 2 3 4 5**
6. Hoe waardeert u de locatie? **1 2 3 4 5**
7. Sluit de gevolgde nascholing Mirrors of Medicine voldoende aan bij de klinische praktijk? **1 2 3 4 5**
8. Vond u dat er voldoende tijd was voor het stellen van vragen? **1 2 3 4 5**
9. Zou u op basis van deze nascholing Mirrors of Medicine aanbevelen bij uw collega's? **1 2 3 4 5**
10. Vond u de rol van Janssen en AstraZeneca passend tijdens de nascholing Mirrors of Medicine? **1=Ja 2=Nee**

PHNL/ZYT/0115/0002g(1)