

## Complete Summary



### GUIDELINE TITLE

**Guidelines on testicular cancer.**

### BIBLIOGRAPHIC SOURCE(S)

Albers P, Albrecht W, Algaba F, Bokemeyer C, Cohn-Cedermark G, Fizazi K, Horwich A, Laguna MP. Guidelines on testicular cancer. Arnhem, The Netherlands: European Association of Urology (EAU); 2009 Mar. 50 p. [331 references]

### GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Albers P, Albrecht W, Algaba F, Bokemeyer C, Cohn-Cedermark G, Horwich A, Laguna MP. Guidelines on testicular cancer. Arnhem, The Netherlands: European Association of Urology (EAU); 2008 Mar. 54 p. [35 references]

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## SCOPE

### DISEASE/CONDITION(S)

Testicular cancers, including:

- Germ cell tumors
- Sex cord/gonadal stromal tumors
- Miscellaneous non-specific stromal tumors

### GUIDELINE CATEGORY

Diagnosis  
Management  
Risk Assessment  
Treatment

### CLINICAL SPECIALTY

Oncology  
Surgery  
Urology

### INTENDED USERS

Physicians

### GUIDELINE OBJECTIVE(S)

- To help urologists assess the evidence-based management of testicular cancer
- To help urologists incorporate the guideline recommendations into their clinical practice

### TARGET POPULATION

Men with germ cell or non-germ cell testicular cancer

### INTERVENTIONS AND PRACTICES CONSIDERED

**Screening/Diagnosis/Assessment**

1. Imaging studies: ultrasound, magnetic resonance imaging (not recommended for diagnosis), computed tomography (CT), chest x-ray, fluorodeoxyglucose positron-emission tomography (FDG-PET) (not recommended for staging)
2. Serum tumour marker assessment
  - Germ cell tumours: alpha-fetoprotein (AFP), human chorionic gonadotropin (hCG), lactate dehydrogenase (LDH), placental alkaline phosphatase (PLAP; optional)
  - Stromal cell tumours: oestrogen, oestradiol, testosterone, luteinizing hormone (LH), follicle stimulating hormone (FSH), progesterone, cortisol, PLAP
3. Inguinal exploration and orchidectomy
4. Organ sparing surgery
5. Pathologic assessment
6. Staging: tumor, node, metastasis (TNM) system; prognostic-based system
7. Post-orchidectomy tumour markers assessment
8. Retroperitoneal, mediastinal, and supraclavicular lymph nodes and visceral assessment
9. Screening self-examination

## Treatment/Management

1. Surgery and second surgery
2. Cisplatin- or carboplatin-based chemotherapy
3. External beam radiotherapy
4. Retroperitoneal lymph node dissection (RPLND) (not recommended for primary treatment of stage 1 seminoma)
5. Timing of chemotherapy (adjuvant therapy, primary treatment, second-line and third-line treatment [consolidation therapy])
6. Risk-adapted chemotherapy
7. Salvage chemotherapy and/or surgery
8. Treatment of brain metastases
9. Frequency and duration of chemotherapy or radiotherapy treatments
10. Restaging after chemotherapy
11. Frequency and type of follow-up

## MAJOR OUTCOMES CONSIDERED

- Sensitivity and specificity of diagnostic tests
- Recurrence rate
- Site and time of relapse
- Disease-free survival
- Morbidity and mortality

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## METHODOLOGY

### METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Secondary Sources)  
 Searches of Electronic Databases

### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

#### General Search Strategy

Up until 2007, the main strategy was to rely on the guidelines group members' knowledge and expertise on the current literature assuming that all, or almost all, relevant information would be captured.

In updates produced from 2008 onwards, a structured literature search has been performed for all guidelines but this search has been limited to randomized controlled trials and meta-analyses, covering at least the past three years, or up until the date of the latest text update if this exceeds the three-year period. Other excellent sources to include are other high-level evidence, Cochrane review and available high-quality guidelines produced by other expert groups or organizations. If there are no high-level data available, the only option is to include lower-level data. The choice of literature has been guided by the expertise and knowledge of the Guidelines Working Group.

#### Specific Strategy for this Guideline

A non-structured review of the literature through October 2007 concerning both the germ cell tumour and the non-germ cell part was conducted. Also data from meta-analysis studies, Cochrane evidence and the recommendations of the European Germ Cell Cancer Collaborative Group Meeting in Amsterdam November 2006, as well as other available guidelines, have been included.

A separate literature search for Leydig cell tumours (synonym: interstitial cell tumour) and Sertoli cell tumours (synonym: androblastoma) was performed.

The literature research for clinical data on Leydig cell tumours resulted in 193 publications dealing with more than 480 tumours in adults, including three publications reporting larger series on a total of 90 patients.

The literature research for clinical data on Sertoli cell tumours resulted in 93 publications dealing with more than 260 tumours in adults, including three publications (from the same group) reporting on a total of 80 patients.

## NUMBER OF SOURCE DOCUMENTS

Not stated

## METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

## RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

### Levels of Evidence

**1a** Evidence obtained from meta-analysis of randomized trials

**1b** Evidence obtained from at least one randomized trial

**2a** Evidence obtained from one well-designed controlled study without randomization

**2b** Evidence obtained from at least one other type of well-designed quasi-experimental study

**3** Evidence obtained from well-designed non-experimental studies, such as comparative studies, correlation studies and case reports

**4** Evidence obtained from expert committee reports or opinions or clinical experience of respected authorities

## METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses

Systematic Review

## DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Whenever possible, references were labelled according to the principles of evidence-based medicine (see the "Rating Scheme for the Strength of the Evidence" field).

## METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

## DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

- The first step in the European Association of Urology (EAU) guidelines procedure is to define the main topic.
- The second step is to establish a working group. The working groups comprise about 4 to 8 members, from several countries. Most of the working group members are academic urologists with a special interest in the topic. Specialists from other medical fields (radiotherapy, oncology, gynaecology, anaesthesiology, etc.) are included as full members of the working groups as needed. In general, general practitioners or patient representatives are not part of the working groups. Each member is appointed for a four-year period, renewable once. A chairman leads each group.\*
- The third step is to collect and evaluate the underlying evidence from the published literature.
- The fourth step is to structure and present the information. All main recommendations are summarized in boxes and the strength of the recommendation is clearly marked in three grades (A-C), depending on the evidence source upon which the recommendation is based. Every possible effort is made to make the linkage between the level of evidence and grade of recommendation as transparent as possible.

\*A multidisciplinary team of urologists, medical oncologists, radiotherapists and a pathologist were involved in producing the present text.

## RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

### Grades of Recommendation

- A. Based on clinical studies of good quality and consistency addressing the specific recommendations and including at least one randomized trial
- B. Based on well-conducted clinical studies, but without randomized clinical trials
- C. Made despite the absence of directly applicable clinical studies of good quality

## COST ANALYSIS

Published cost analyses were reviewed.

- Magnetic resonance imaging (MRI) of the scrotum offers a sensitivity of 100% and a specificity of 95% to 100%, but its high cost does not justify its use for diagnosis.
- Cost analyses of surveillance compared with radiotherapy for stage I germ cell tumours indicate that it is more expensive, but estimates vary, mainly depending on the follow-up schedules.
- The results of cost analyses comparing surveillance, retroperitoneal lymph node dissection (RPLND) and primary chemotherapy for stage 1 non-seminomatous germ cell tumours show different results among the reported studies, possibly because of differences in intensity and costs related to follow-up procedures. With a low frequency of follow-up computed tomographies (CTs) (for instance, as has been proven effective for the surveillance strategy in non-seminoma clinical stage I), the costs of follow-up can be considerably reduced.

- The follow-up after RPLND is much simpler and less costly than that carried out during post-orchidectomy surveillance due to the reduced need for abdominal CT scans.

## METHOD OF GUIDELINE VALIDATION

Internal Peer Review

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The Appraisal of Guidelines for Research and Evaluation (AGREE) instrument was used to analyse and assess a range of specific attributes contributing to the validity of a specific clinical guideline.

The AGREE instrument, to be used by two to four appraisers, was developed by the AGREE collaboration ([www.agreecollaboration.org](http://www.agreecollaboration.org)) using referenced sources for the evaluation of specific guidelines. (See the "Availability of Companion Documents" field for further methodology information).

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## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

Definitions for the grades of recommendation (**A-C**) are provided at the end of the "Major Recommendations" field.

### Diagnosis and Staging of Testicular Cancer

**Table: Recommended Tests for Staging at Diagnosis**

Test	Recommendation Grade B	Recommendation Grade C
Serum tumour markers	Alpha-fetoprotein Human chorionic gonadotrophin (hCG) Lactate dehydrogenase (LDH) (for advanced tumours)	
Abdominopelvic computed tomography (CT) scan	All patients	Slim adolescent
Chest X-ray	Seminoma <sup>a</sup>	
Chest CT scan	Non-seminomatous germ cell tumour (NSGCT)	
Testis ultrasound	Clinical suspicion and normal scrotum at palpation	
Magnetic resonance imaging (MRI)	When abdominal CT is inconclusive	All cases
Positron emission tomography (PET) scan <sup>b</sup>	Follow-up residual masses in seminoma	
Other	If clinical suspicion	
<b>Recommended Further Investigations</b>		
Fertility investigations (should be offered)	Total testosterone, luteinising hormone (LH), follicle stimulating hormone (FSH), semen analysis, sperm banking	

<sup>a</sup> If negative, abdominopelvic CT scan.

<sup>b</sup> There is currently no indication for PET scan at diagnosis.

### Guidelines on Diagnosis and Staging of Testicular Cancer

1. Testicular ultrasound is mandatory. (**Grade of recommendation: B**).
2. Orchidectomy and pathological examination of the testis is necessary to confirm the diagnosis and to define the local extension (pathologic tumour [pT] category) (**Grade B recommendation**). In a life-threatening situation due to extensive metastasis, chemotherapy must be started before orchidectomy.
3. Serum determination of tumour markers (alpha-fetoprotein [AFP], human chorionic gonadotropin [hCG], and lactate dehydrogenase [LDH] in metastatic disease) must be performed before and after orchidectomy for staging and prognostic reasons (**Grade of recommendation: B**).
4. The state of retroperitoneal, mediastinal and supraclavicular nodes and viscera must be assessed in testicular cancer. In seminoma, a

chest computed tomography (CT) scan is not necessary if abdominal nodes are negative (**Grade of recommendation: B**).

## **Treatment: Stage I Germ Cell Tumours**

### **Treatment of Seminoma Stage I**

1. Surveillance (if facilities available and patient compliant) (**Grade of recommendation: B**).
2. Carboplatin-based chemotherapy (one course at area under the curve [AUC] 7) can be recommended as an alternative to radiotherapy and surveillance (**Grade of recommendation: A**).
3. Adjuvant radiotherapy to a para-aortic or hockey stick field, to a total dose of 20 Gy (**Grade of recommendation: A**).

## **Treatment of Non-Seminomatous Germ Cell Tumor (NSGCT) Stage I**

### **Clinical Stage (CS) 1**

CS1 risk adapted treatments based on vascular invasion or surveillance are recommended treatment options (**Grade of recommendation: B**) (see table below).

**Table: Risk-Adapted Treatment for CS1 Based on Vascular Invasion or Surveillance**

<i>CS1A (pT1, No Vascular Invasion): Low Risk</i>
1. If the patient is willing and able to comply with a surveillance policy, long-term (at least 5 years) close follow-up should be recommended ( <b>Grade of recommendation: B</b> ).
2. Adjuvant chemotherapy or nerve-sparing retroperitoneal lymph node dissection (RPLND) in low-risk patients remain options for those not willing to undergo surveillance. If RPLND reveals PN+ (nodal involvement) disease, chemotherapy with two courses of cisplatin/etoposide/bleomycin (PEB) should be considered ( <b>Grade of recommendation: A</b> ).
<i>CS1B (pT2-pT4); High Risk</i>
1. Primary chemotherapy with two courses of PEB should be recommended ( <b>Grade of recommendation: B</b> ).
2. Surveillance or nerve-sparing RPLND in high-risk patients remain options for those not willing to undergo adjuvant chemotherapy. If pathological stage II is revealed at RPLND, further chemotherapy should be considered ( <b>Grade of recommendation: A</b> ).

## **Treatment of Metastatic Germ Cell Tumours**

1. Low volume NSGCT stage IIA/B with elevated markers should be treated like 'good or intermediate prognosis' advanced NSGCT with three or four cycles of PEB. Stage II A/B without marker elevation can be treated by RPLND or close surveillance.
2. In metastatic NSGCT ( $\geq$  stage IIC) with a good prognosis, three courses of PEB is the primary treatment of choice (**Grade of recommendation: A**).
3. In metastatic NSGCT with an intermediate or poor prognosis, the primary treatment of choice is four courses of standard PEB (**Grade of recommendation: A**).
4. Surgical resection of residual masses after chemotherapy in NSGCT is indicated in the case of visible residual masses and when serum levels of tumour markers are normal or normalising (**Grade of recommendation: B**).
5. Seminoma CSII A/B can initially be treated with radiotherapy. When necessary, chemotherapy can be used as a salvage treatment with the same schedule as for the corresponding prognostic groups of NSGCT (**Grade of recommendation: A**).
6. In stage CS IIB, chemotherapy (4 x EP or 3 x PEB, in good prognosis) is an alternative to radiotherapy. Although more toxic in the short term, it appears that 4 x EP or 3 x PEB achieve a similar level of disease control (**Grade of recommendation: B**).
7. Seminoma, stage IIC and higher should be treated with primary chemotherapy according to the same principles used for NSGCT (**Grade of recommendation: A**).

## **Follow-up after Curative Therapy**

### **General Considerations**

The selection of the test to be performed in follow-up should adhere to the following principles:

- The interval between examinations and duration of testing should be consistent with the time of maximal risk of recurrence and the natural history of the tumour.
- The tests should be directed at the most likely sites of recurrence and should have a high predictive value, both positive and negative.
- Therapy should be available that will result in cure of the recurrence, significant prolongation of life or palliation of symptoms. The initiation of earlier therapy should improve the outcome compared with therapy given when the patient becomes symptomatic from the tumour recurrence.
- The increased risk of second malignancy, both in the primary site and in other tissues that may have been exposed to the same

carcinogens, or in which there is epidemiological evidence of increased risk, should also guide the ordering tests. Malignant and non-malignant complications of therapy must also be considered. Such testing should also be performed with a frequency and duration consistent with the nature of the risk and include only tests with high positive- and negative-predictive values.

The following considerations apply in a general manner for the selection of an appropriate schedule and testing in the follow-up of all stages of testis tumour:

- Most recurrences after curative therapy will occur in the first 2 years; surveillance should be most frequent and intensive during this time.
- Late relapses can occur beyond 5 years and therefore yearly follow-up for life may be advocated.
- After RPLND, relapse in the retroperitoneum is rare; the most likely site of recurrence being the chest.
- The value of chest X-ray has been recently questioned in the follow-up of patients with disseminated disease after complete remission.
- CT of the chest has a higher predictive value than chest X-ray.
- The results of therapy are dependent on the bulk of disease; thus, an intensive strategy to detect asymptomatic disease may be justifiable.
- After chemotherapy or radiotherapy, there is a long-term risk for secondary malignancies development.

**Table: Recommended Minimum Follow-Up Schedule in a Surveillance Policy: Stage I Non-Seminoma**

Procedure	Year			
	1	2	3-5	6-10
Physical examination	4 times	4 times	Twice/year	Once/year
Tumour markers	4 times	4 times	Twice/year	Once/year
Chest X-ray	Twice	Twice		
Abdominopelvic CT scan	Twice (at 3 and 12 months)			

**Table: Recommended Minimum Follow-Up Schedule after Retroperitoneal Lymphadenectomy or Adjuvant Chemotherapy: Stage I Non-Seminoma**

Procedure	Year			
	1	2	3-5	6-10
Physical examination	4 times	4 times	Twice/year	Once/year
Tumour markers	4 times	4 times	Twice/year	Once/year
Chest X-ray	Twice	Twice		
Abdominopelvic CT scan	Once	Once		

**Table: Recommended Minimum Follow-Up Schedule for Post-Orchidectomy Surveillance, Radiotherapy or Chemotherapy: Stage I Seminoma**

Procedure	Year			
	1	2	3-4	5-10
Physical examination	3 times	3 times	Twice/year	Once/year
Tumour markers	3 times	3 times	Twice/year	Once/year
Chest X-ray	Twice/year	Twice/year	Once/year	Once/year
Abdominopelvic CT scan	Twice/year	Twice/year	Once/year	Once/year

**Table: Recommended Minimum Follow-Up Schedule in Advanced NSGCT and Seminoma**

Procedure	Year			
	1	2	3-5	Thereafter
Physical examination	4 times	4 times	Twice/year	Once/year
Tumour markers	4 times	4 times	Twice/year	Once/year
Chest X-ray	4 times	4 times	Twice/year	Once/year

Procedure	Year			
	1	2	3-5	Thereafter
Abdominopelvic CT scan <sup>a, b</sup>	Twice	Twice	Once/year	Once/year
Chest CT scan <sup>b, c</sup>	As indicated	As indicated	As indicated	As indicated
Brain CT scan <sup>d</sup>	As indicated	As indicated	As indicated	As indicated

<sup>a</sup> Abdominal CT scanning must be performed at least annually if teratoma is found in the retroperitoneum.

<sup>b</sup> If the post-chemotherapy evaluation in a seminoma patients shows any mass >3 cm, the appropriate CT scan should be repeated 2 and 4 months later to ensure that the mass is continuing to regress. If available, fluorodeoxyglucose-positron-emission tomography (FDG-PET) scanning can be performed.

<sup>c</sup> A chest CT is indicated if abnormality is detected on chest X-ray and after pulmonary resection.

<sup>d</sup> In patients with headaches, focal neurological findings, or any central nervous system symptom.

## **Testicular Stromal Tumours**

### **Leydig Cell Tumours**

#### *Diagnosis*

Diagnostic work-up must include markers, hormones (at least testosterone, luteinizing hormone [LH] and follicle-stimulating hormone [FSH]; if not conclusive, additionally, oestrogen, oestradiol, progesterone and cortisol), ultrasound of both testes and CT scan of chest and abdomen. On ultrasound, it may be possible to observe well-defined, small, hypoechoic lesions with hypervascularization, but the appearance is variable and is indistinguishable from germ cell tumours.

#### *Treatment*

Asymptomatic testicular tumours of small volume are often misinterpreted as germ cell tumours, and inguinal orchidectomy is performed. It is highly recommended to perform an organ-sparing procedure in every small intraparenchymal lesion to gain the histological diagnosis. Especially in patients with symptoms of gynaecomastia or hormonal disorders, a non germ-cell tumour should be considered and immediate orchidectomy avoided. In cases of germ cell tumour in either frozen section or paraffin histology, orchidectomy is recommended as long as a contralateral normal testicle is present.

In stromal tumours with histological signs of malignancy, especially in patients of older age, orchidectomy and retroperitoneal lymphadenectomy is recommended to prevent metastases. Without histological signs of malignancy, an individualized surveillance strategy after orchidectomy is recommended (CT follow-up may be most appropriate since specific tumour markers are not available).

Tumours that have metastasized to lymph nodes, lung, liver or bone respond poorly to chemotherapy or radiation, and survival is poor.

#### *Follow-up*

Recommendations for appropriate follow-up cannot be given because of the lack of follow-up data in most reported cases and the lethal outcome of metastatic tumours, irrespective of the therapy chosen.

### **Sertoli Cell Tumour**

#### *Diagnosis*

Diagnostic work-up must include tumour markers, hormones (at least testosterone, LH and FSH; if not conclusive, additionally, oestrogen, oestradiol, progesterone and cortisol), ultrasound of both testes and CT scan of chest and abdomen.

#### *Treatment*

Testicular tumours of small volume, otherwise asymptomatic, are often misinterpreted as germ cell tumours and inguinal orchidectomy is performed. It is highly recommended to proceed with an organ-sparing approach in small intraparenchymal testicular lesions until final histology is available. Especially in patients with symptoms of gynaecomastia or hormonal disorders or typical imaging on ultrasound (calcifications, small circumscribed tumours), organ-sparing surgery should be considered. Secondary orchidectomy can be performed if final pathology reveals a non-stromal (e.g., germ cell) tumour. Organ-sparing surgical approaches are justified as long as the remaining testicular parenchyma is sufficient for endocrine (and in stromal tumours also exocrine) function.

In tumours with histological signs of malignancy, especially in patients of older age, orchidectomy and retroperitoneal lymphadenectomy are recommended to prevent metastases. Without signs of malignancy, an individualized surveillance strategy after orchidectomy is recommended (CT scans may be most appropriate since specific tumour-markers are not available). Tumours metastasizing to lymph nodes, lung or bone respond poorly to chemotherapy or radiation, and survival is poor.

#### *Follow-up*

Recommendations for appropriate follow-up cannot be given because of the lack of follow-up data in most reported cases and the lethal outcome of metastatic tumours, irrespective of the therapy chosen.

## Definitions:

### Grades of Recommendation

- A. Based on clinical studies of good quality and consistency addressing the specific recommendations and including at least one randomized trial
- B. Based on well-conducted clinical studies, but without randomized clinical trials
- C. Made despite the absence of directly applicable clinical studies of good quality

### CLINICAL ALGORITHM(S)

The original guideline document contains clinical algorithms for:

- Treatment algorithm after orchidectomy according to individual risk factors in patients with non-seminoma germ cell tumour (NSGCT) clinical stage 1 (CS1)
- Treatment options in patients with non-seminoma clinical stage IIA

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## EVIDENCE SUPPORTING THE RECOMMENDATIONS

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for selected recommendations (see the "Major Recommendations" field).

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## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

Appropriate diagnosis and management of testicular cancer

### POTENTIAL HARMS

- Infertility will result after radiotherapy and the risk of long-term Leydig cell insufficiency after radiotherapy of a solitary testis is increased.
- The rate of severe radiation-induced long-term toxicity is less than 2% when treating stage 1 seminoma. Moderate chronic gastrointestinal (GI) side-effects are seen in about 5% of patients and moderate acute GI toxicity in about 60%. The main concern surrounding adjuvant radiotherapy is the potentially increased risk of radiation-induced secondary non-germ-cell malignancies.
- It is important to be aware of the slow-growing retroperitoneal teratomas after primary chemotherapy and of the risk of late chemoresistant cancer relapse.
- The risk of retroperitoneal relapse after a properly performed nerve-sparing retroperitoneal lymph node dissection (RPLND) is very low (less than 2%), as is the risk of ejaculatory disturbance or other significant side effects.
- The risk of retrograde ejaculation after radical post-chemotherapy (PC) RPLND is 100%, with nerve-sparing 15%.
- After chemotherapy or radiotherapy as curative treatment for germ cell tumours, there is a long-term risk of the development of secondary malignancies.

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## CONTRAINDICATIONS

### CONTRAINDICATIONS

Computed tomography scanning is contraindicated in cases of allergy to contrast media.

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## QUALIFYING STATEMENTS

### QUALIFYING STATEMENTS

- In the preparation of their clinical guidelines, the European Association of Urology (EAU) have taken appreciable care to ensure their accuracy, and healthcare professionals are encouraged to take them into account when exercising their clinical judgement.
- These guidelines, however, do not override the individual responsibility of health professionals to make appropriate decisions in the circumstances of the individual patients. It is also the health professional's responsibility to verify the rules and regulations applicable to drugs and devices at the time of prescription.
- In view of the possibility of human error and/or advances in medical knowledge, the EAU cannot and does not warrant that the information contained in the guidelines is in every respect accurate or complete.
- Accordingly, the EAU will not be held responsible or liable for any errors or omissions that may be found in any of the information at this site.
- Readers are encouraged to consult other sources in order to confirm the information contained in any of the guidelines and in the event that medical treatment is required to take professional, expert advice from a legally qualified and appropriately experienced medical practitioner.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

The European Association of Urology (EAU) Guidelines long version (containing all 19 guidelines) is reprinted annually in one book. Each text is dated. This means that if the latest edition of the book is read, one will know that this is the most updated version available. The same text is also made available on a CD (with hyperlinks to PubMed for most references) and posted on the EAU websites [Uroweb](#) and [Urosource](#).

Condensed pocket versions, containing mainly flow-charts and summaries, are also printed annually. All these publications are distributed free of charge to all (more than 10,000) members of the Association. Abridged versions of the guidelines are published in European Urology as original papers. Furthermore, many important websites list links to the relevant EAU guidelines sections on the association websites and all, or individual, guidelines have been translated to some 15 languages.

### IMPLEMENTATION TOOLS

Clinical Algorithm  
Foreign Language Translations  
Pocket Guide/Reference Cards  
Resources

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

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## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Getting Better  
Living with Illness

### IOM DOMAIN

Effectiveness  
Patient-centeredness

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## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Albers P, Albrecht W, Algaba F, Bokemeyer C, Cohn-Cedermark G, Fizazi K, Horwich A, Laguna MP. Guidelines on testicular cancer. Amhem, The Netherlands: European Association of Urology (EAU); 2009 Mar. 50 p. [331 references]

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

2008 Mar (revised 2009 Mar)

### GUIDELINE DEVELOPER(S)

European Association of Urology - Medical Specialty Society

### SOURCE(S) OF FUNDING

European Association of Urology

### GUIDELINE COMMITTEE

Testicular Cancer Guidelines Writing Panel

### COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

*Panel Members:* P. Albers (*Chairman*); W. Albrecht; F. Algaba; C. Bokemeyer; G. Cohn-Cedermark; K. Fizazi; A. Horwich; M.P. Laguna

### FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All members of the Testicular Cancer Guidelines writing panel have provided disclosure statements on all relationships that they have and that might be perceived to be a potential source of conflict of interest. This information is kept on file in the European Association of Urology (EAU) Central Office database. This guidelines document was developed with the financial support of the EAU. No external sources of funding and support have been involved. The EAU is a non-profit organisation and funding is limited to administrative assistance and travel and meeting expenses. No honoraria or other reimbursements have been provided.

## GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Albers P, Albrecht W, Algaba F, Bokemeyer C, Cohn-Cedermark G, Horwich A, Laguna MP. Guidelines on testicular cancer. Arnhem, The Netherlands: European Association of Urology (EAU); 2008 Mar. 54 p. [35 references]

## GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) in [English](#) and [Russian](#) from the European Association of Urology Web site.

Print copies: Available from the European Association of Urology, PO Box 30016, NL-6803, AA ARNHEM, The Netherlands.

## AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- EAU guidelines office template. Arnhem, The Netherlands: European Association of Urology (EAU); 2007. 4 p.
- The European Association of Urology (EAU) guidelines methodology: a critical evaluation. Arnhem, The Netherlands: European Association of Urology (EAU); 18 p.

The following are also available:

- Guidelines on testicular cancer. Pocket guidelines. Arnhem, The Netherlands: European Association of Urology (EAU); 2009 Mar. 18 p. Electronic copies: Available in Portable Document Format (PDF) in [English](#) and [Russian](#) from the European Association of Urology Web site. Also available as an e-book from the [European Association of Urology Web site](#).

Print copies: Available from the European Association of Urology, PO Box 30016, NL-6803, AA ARNHEM, The Netherlands.

## PATIENT RESOURCES

None available

## NGC STATUS

This NGC summary was completed by ECRI Institute on July 2, 2008. The information was verified by the guideline developer on August 29, 2008. This NGC summary was updated by ECRI Institute on December 15, 2009. The information was verified by the guideline developer on January 20, 2010.

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