Complete Summary

GUIDELINE TITLE

Anal cancer.

BIBLIOGRAPHIC SOURCE(S)

Poggi MM, Johnstone PA, Blackstock AW, Herman J, Konski AA, Mohiuddin M, Regine WF, Rich TA, Suh WW, Cosman BC, Saltz L, Expert Panel on Radiation Oncology-Rectal/Anal Cancer. Anal cancer. [online publication]. Reston (VA): American College of Radiology (ACR); 2007. 11 p. [36 references]

GUIDELINE STATUS

This is the current release of the guideline.

It updates a previously published version: American College of Radiology (ACR), Expert Panel on Radiation Oncology-Rectal/Anal Cancer. Anal cancer. Reston (VA): American College of Radiology (ACR); 2002. 11 p. (ACR appropriateness criteria). [31 references]

The appropriateness criteria are reviewed annually and updated by the panels as needed, depending on introduction of new and highly significant scientific evidence.

COMPLETE SUMMARY CONTENT

SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
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SCOPE

DISEASE/CONDITION(S)

Anal cancer

GUIDELINE CATEGORY

Treatment

CLINICAL SPECIALTY

Gastroenterology
Oncology
Radiation Oncology
Radiology
Surgery

INTENDED USERS

Health Plans
Hospitals
Managed Care Organizations
Physicians
Utilization Management

GUIDELINE OBJECTIVE(S)

To evaluate the appropriateness of therapeutic procedures for anal cancer

TARGET POPULATION

Patients with anal cancer

INTERVENTIONS AND PRACTICES CONSIDERED

1. Surgery
    - Local excision: negative and positive margins
    - Abdominoperineal resection (APR)
2. Radiotherapy
    - External beam
    - Interstitial (brachytherapy)
    - Chemoradiation
3. Chemotherapy
    - Mitomycin
    - Cisplatin
    - 5-fluorouracil
4. Combination therapy: radiation therapy and chemotherapy

MAJOR OUTCOMES CONSIDERED

- 5-year survival
- Local recurrence rate
- Nodal metastasis rate
- Colostomy-free survival rate

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of peer-reviewed medical journals and the major applicable articles were identified and collected.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Not Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not stated

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

One or two topic leaders within a panel assume the responsibility of developing an evidence table for each clinical condition, based on analysis of the current literature. These tables serve as a basis for developing a narrative specific to each clinical condition.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Since data available from existing scientific studies are usually insufficient for meta-analysis, broad-based consensus techniques are needed for reaching agreement in the formulation of the appropriateness criteria. The American College of Radiology (ACR) Appropriateness Criteria panels use a modified Delphi technique to arrive at consensus. Serial surveys are conducted by distributing questionnaires to consolidate expert opinions within each panel. These questionnaires are distributed to the participants along with the evidence table and narrative as developed by the topic leader(s). Questionnaires are completed

by participants in their own professional setting without influence of the other members. Voting is conducted using a scoring system from 1-9, indicating the least to the most appropriate imaging examination or therapeutic procedure. The survey results are collected, tabulated in anonymous fashion, and redistributed after each round. A maximum of three rounds is conducted and opinions are unified to the highest degree possible. Eighty percent agreement is considered a consensus. This modified Delphi technique enables individual, unbiased expression, is economical, easy to understand, and relatively simple to conduct.

If consensus cannot be reached by the Delphi technique, the panel is convened and group consensus techniques are utilized. The strengths and weaknesses of each test or procedure are discussed and consensus reached whenever possible. If "No consensus" appears in the rating column, reasons for this decision are added to the comment sections.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

ACR Appropriateness Criteria®

Clinical Condition: Anal Canal

Variant 1: 73-year-old male, T1N0M0. KPS 80.

Treatment	Appropriateness Rating	Comments
Local Excision, Negative Margins		
RT + 5FU + MMC	9	For CDDP, see text

Treatment	Appropriateness Rating	Comments
RT alone	4	
APR	1	
Brachytherapy alone	1	
Local Excision, Positive Margins		
RT + 5FU + MMC	9	For CDDP, see text.
RT alone	4	
Reexcision	1	
APR	1	
If RT + Chemo: RT Dose to Primary		
40 Gy/2.0 Gy	1	
45 Gy/1.8 Gy	6	
50.4 Gy/1.8 Gy	8	
59.4 Gy/1.8 Gy	4	
Technique: RT		
AP/PA Photons	8	
PA + laterals + electron boost to inguinal LNs	8	
4 field box	3	
If RT + Chemo: RT Volume Needed		
Pelvis + primary + medial inguinal LNs	8	
Pelvis + primary + lateral inguinal LNs	4	
Primary alone	1	
Routine Post-treatment Biopsy		
If progressive disease observed	9	
If clinical regression observed	1	

Treatment	Appropriateness Rating	Comments
If stable disease observed	1	
Appropriateness Criteria Scale **1 2 3 4 5 6 7 8 9** **1 = Least appropriate 9 = Most appropriate**		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 2: 65-year-old female, T2N0M0. KPS 60.

Treatment	Appropriateness Rating	Comments
RT + 5FU + MMC	9	For CDDP, see text.
RT + 5FU	6	
RT alone	4	
External beam + brachytherapy	2	
APR	1	
If RT + Chemo: RT Dose to Primary		
40 Gy/2.0 Gy	2	
45 Gy/1.8 Gy	4	
50.4 Gy/1.8 Gy	8	
59.4 Gy/1.8 Gy	6	
Technique: RT		
AP/PA Photons	8	
PA + laterals + electron boost to inguinal LNs	8	
4 field box	3	
If RT + Chemo: RT Volume Needed		
Pelvis + primary + medial inguinal LNs	8	

Treatment	Appropriateness Rating	Comments
Pelvis + primary + lateral inguinal LNs	6	
Primary alone	1	
Routine Post-treatment Biopsy		
If progressive disease observed	9	
If clinical regression observed	1	
If stable disease observed	1	
Appropriateness Criteria Scale **1 2 3 4 5 6 7 8 9** **1 = Least appropriate 9 = Most appropriate**		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 3: 45-year-old male, T3N0M0. KPS 80.

Treatment	Appropriateness Rating	Comments
RT + 5FU + MMC	9	For CDDP, see text.
RT alone	2	
RT + 5FU	2	
External beam + brachytherapy	2	
APR	1	
If RT + Chemo: RT Dose to Primary		
40 Gy/2.0 Gy	1	
45 Gy/1.8 Gy	2	
50.4 Gy/1.8 Gy	5	
59.4 Gy/1.8 Gy	9	
Technique: RT		

Treatment	Appropriateness Rating	Comments
AP/PA Photons	8	
PA + laterals + electron boost to inguinal LNs	8	
4 field box	3	
If RT + Chemo: RT Volume Needed		
Pelvis + primary + medial inguinal LNs	8	
Pelvis + primary + lateral inguinal LNs	7	
Primary alone	1	
Routine Post-treatment Biopsy		
If progressive disease observed	9	
If clinical regression observed	1	
If stable disease observed	1	
Appropriateness Criteria Scale **1 2 3 4 5 6 7 8 9** **1 = Least appropriate 9 = Most appropriate**		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 4: 50-year-old female, T1N2M0 right inguinal 2-cm node + M0. KPS 90.

Treatment	Appropriateness Rating	Comments
Pre-RT Induction Chemotherapy		
5FU + MMC	1	
5FU + CDDP	1	
Primary Treatment		
RT + 5FU + MMC	9	For CDDP, see text.

Treatment	Appropriateness Rating	Comments
RT alone	2	
APR	1	
Groin dissection + RT + chemo	1	
Dose to Primary + Right Inguinal Node with RT + Chemo		
40 Gy/2.0 Gy	2	
45 Gy/1.8 Gy	4	
50.4 Gy/1.8 Gy	7	
59.4 Gy/1.8 Gy	7	
Technique: RT		
AP/PA photons	6	
PA + laterals + electron boost to inguinal LNs	8	
4 field box	5	
If RT + Chemo: RT Volume Needed		
Pelvis + primary + medial inguinal LNs	2	
Pelvis + primary + lateral inguinal LNs	9	
Primary alone	1	
Routine Post-treatment Biopsy		
If progressive disease observed	9	
If clinical regression observed	1	
If stable disease observed	1	
Appropriateness Criteria Scale **1 2 3 4 5 6 7 8 9** **1 = Least appropriate 9 = Most appropriate**		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 5: 45-year-old male, T4N3M0. KPS 80.

Treatment	Appropriateness Rating	Comments
Pre-RT Induction Chemotherapy		
5FU + MMC	1	
5FU + CDDP	1	
Primary Treatment		
RT + 5FU + MMC	9	For CDDP, see text.
RT alone	2	
APR + node dissection	1	
APR + node dissection + chemo RT	1	
RT + Chemo: RT Dose to Primary		
50.4 Gy/1.8 Gy	3	
55.8 Gy/1.8 Gy	7	
59.4 Gy/1.8 Gy	9	
70.2 Gy/1.8 Gy	2	
Technique: RT		
AP/PA photons	6	
PA + laterals + electron boost to inguinal LNs	8	
4 field box	3	
If RT + Chemo: RT Volume Needed		
Pelvis + primary + medial inguinal LNs	2	
Pelvis + primary + lateral inguinal LNs	9	
Primary alone	1	

Treatment	Appropriateness Rating	Comments
Routine Post-treatment Biopsy		
If progressive disease observed	9	
If clinical regression observed	1	
If stable disease observed	1	
Appropriateness Criteria Scale **1 2 3 4 5 6 7 8 9** **1 = Least appropriate 9 = Most appropriate**		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 6: 56-year-old male, T3N0M0, dose 50.4 Gy with 5FU + MMC with initial CR, now with biopsy of primary at 7 months = positive (recurrent).

Treatment	Appropriateness Rating	Comments
APR	9	
Postoperative chemo + APR	3	
Additional RT + chemo	2	
Brachytherapy alone	1	
Local excision	1	
Appropriateness Criteria Scale **1 2 3 4 5 6 7 8 9** **1 = Least appropriate 9 = Most appropriate**		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Summary of Literature Review

Background

Anal canal cancers are rare, accounting for about 10% of cancers in the anorectal region and approximately 4,500 cases annually in the United States. Beginning in the early 1980s, the traditional management of abdominoperineal resection (APR)

for tumors of the anal region was progressively replaced by radiotherapy alone and, eventually, by chemoradiation. The emergence of a successful nonsurgical treatment for anal cancer was a paradigm shift and helped usher in a new era of organ preservation treatment for other cancer disease sites. Although there are no randomized trials comparing APR with radiation or chemoradiation, chemoradiation has supplanted other forms of therapy primarily because of its superior local control and colostomy-free survival for most patients with anal cancer. Abdominoperineal resection (and radiotherapy to a lesser degree) results in a permanent colostomy with its associated functional, anatomic, and psychologic complications. The treatment of anal cancer with chemoradiation has served as a prototype for attempts at organ-preserving treatment of esophageal and other cancers.

Histology

Tumors of the anal region can be keratinizing or nonkeratinizing. Basaloid and cloacogenic cancers arise from the functional zone just above the dentate line and are considered by most investigators to be types of squamous cancer. Primary adenocarcinoma of the anus is rare. It is an aggressive disease that is associated with a high rate of distant metastases. The role of routine chemoradiation for adenocarcinoma is not firmly demonstrated in the literature. However, in a Rare Cancer Network (RCN) multicenter study reporting on a group of 77 patients, outcomes differed from results reported with squamous cell cancer of the anus. Small cell carcinoma of the anal region is even rarer, and experience in treating it is limited. Other rare histologies include melanoma, lymphoma (including mucosa-associated lymphoid tissue [MALT] lymphomas), and sarcoma.

Distant Metastases

Systemic spread of anal cancer occurs in less than 10% of cases. The most common sites of spread are the liver and lungs. The treatment of such patients is varied. Risk for distant metastases in adenocarcinoma of the anus is about 10%.

Tumors of the Anal Margin

The anal margin is defined generally as an area within a 5-cm radius outside but not impinging upon the anal verge. Due to their location and consequent proclivity for early diagnosis, these tumors tend to have a better prognosis. Patients with very early stage (T1M0N0) anal margin cancer are very well managed by local wide excision or by radiotherapy alone, similar to the treatment for a skin cancer. The recommended radiation dose in these cases is between 60 and 65 Gy in 6–7 weeks. More advanced diseases at the anal margin or any lesions that involve the anal verge are managed with treatment options similar to those for anal canal cancers, stage for stage.

Staging Systems

Several clinical staging systems have been proposed and used in the past, including classifications from the Mayo Clinic, Roswell Park, and the Centre Léon Bérard. The recently modified TNM classification system has been used in the treatment guidelines because it is suitable for a disease treated primarily with nonsurgical means and because of its increasing acceptance in the literature.

Treatments

Surgical Management

Radical surgery in the form of APR that resulted in permanent colostomies was the standard treatment of choice for anal cancers until the 1970s, before radiotherapy alone and then chemoradiation supplanted it. Abdominoperineal resection yielded 5-year survival rates of approximately 50% and local recurrence rates of approximately 30%. The role of APR for chemoradiation failures is discussed with salvage treatment.

Local excision with wide margins may be an alternative to radiotherapy in the treatment of selected patients with T1N0M0 anal canal cancers as long as sphincter function can be preserved. The cure rates are markedly lower, however: approximately 60% at 5 years with local recurrences at about 40%. The reciprocal figures for radiotherapy alone are 90% to 100% 5 year survival rate and 10%–20% local failure rate. Local excision alone should be reserved for special clinical circumstances such as the patient with a poor performance status and/or significant comorbidities.

Biopsies for initial diagnosis and for establishing local residual or recurrent disease should also be done with caution in the interest of sphincter function.

Radiation Alone–External Beam

The efficacy of radiation alone in patients with anal cancer has been well studied. One study reported on 270 patients with T1–T4 carcinoma of the anal canal treated with radiation alone. Local control for tumors smaller than 4 cm was 90% at 10 years, whereas for tumors larger than 4 cm it was 65% at 10 years. Overall, 57% of patients maintained normal anal function. Another study reported similar results with radiation alone. Local control was related to T stage. They reported 100% local control for T1 tumors, 86% for T2, 92% for T3, and 63% for T4. Overall, 74% of patients maintained a functional anus. Despite encouraging results of radiation alone, chemoradiation has been shown to be superior to radiation in patients with anal canal cancer, as will be discussed below.

Radiation Alone–Interstitial Radiation (Brachytherapy)

Few studies have reported on the efficacy of brachytherapy alone. One study reported that brachytherapy was relatively effective for patients with small node-negative anal canal cancer. Local control for tumors smaller than 5 cm was 64% and diminished to 23% for tumors larger than 5 cm. Survival was also related to tumor size. The long-term survival rate was 60% for tumors smaller than 5 cm and only 30% for tumors larger than 5 cm. Eighty-two percent of patients who had no evidence of recurrent cancer retained normal anal function. No direct comparison of brachytherapy versus chemoradiation has been made; however, these results are clearly inferior to those of combined-modality treatment.

Radiation Alone Versus Chemoradiation

Concurrent chemotherapy and radiation yield results superior to those of radiation alone or radical surgical resection. Consequently, chemoradiation is now the standard of care. One group of investigators reported the results of one of the largest experiences with the use of chemoradiation for anal canal cancer. They described 192 patients treated with either radiation alone, radiation with 5-fluorouracil (5FU), or radiation with 5FU and mitomycin. Treatment with radiation along with concurrent 5FU and mitomycin resulted in the highest degree of local control and 5 year survival rate (86% and 78%, respectively); however, mitomycin was associated with increased frequency and severity of toxicity, particularly hematological toxicity.

Two major randomized studies have compared the use of radiation alone versus combined chemoradiation. One group of investigators reported the results of a study by the European Organization for Research and Treatment of Cancer Radiotherapy (EORTC) that compared radiation alone to radiation plus concurrent chemotherapy for patients with T3, T4, N0-N3 and patients with T1, T2, N1-3. In that study, local control was increased from 55% with radiation alone to 73% with combined chemoradiation. Similarly, the colostomy-free rate increased from 45% with radiation alone to 77% with combined-modality therapy. The 5 year survival rate was the same at 56%, and there was no difference in late toxicity between the two arms. The United Kingdom Coordinating Committee on Cancer Research (UKCCCR) Anal Cancer Working Party reported the results of radiation alone versus chemoradiation for patients with T1-T4, N +/−. Their findings indicated local control with radiation alone was inferior to that of chemoradiation, 41% vs. 64%. They concluded that chemoradiation with surgical salvage for failure was superior treatment to radiation alone.

Use of Mitomycin

In a large intergroup study by one group of investigators, the use of mitomycin (MMC) combined with 5FU and radiation has been shown to be superior to 5FU and radiation alone. The disease-free survival rate increased from 51% with 5FU and radiation to 73% with radiation combined with 5FU and mitomycin. The colostomy rate decreased from 22% with radiation and 5FU to 9% with radiation, 5FU, and mitomycin.

Use of Cisplatin

Several studies have examined the use of radiation given concurrently with 5FU and cisplatin (CDDP) rather than with 5FU alone or 5FU and mitomycin. To date, however, there are no phase III data to establish the superiority or even equivalence of CDDP compared to mitomycin. One group of investigators reported promising results in 39 patients treated with concurrent infusional 5FU, cisplatin, and radiation. Local control at 5 years with both 5FU and cisplatin administered by infusion along with radiation to 54–55 Gy was 85% compared with 73% for patients treated with 5FU and radiation to similar doses.

Toxicities, especially hematologic toxicity, were limited. Another study combined bolus CDDP with infusional 5FU and radiation therapy in a Phase 2 trial of the Eastern Cooperative Oncology Group (ECOG). The regimen resulted in an overall response rate of 95%; however, significant toxicity occurred, indicating that this regimen was near the maximal tolerated dose. The difference in the toxicities in

these two studies may be based on the schedule of cisplatin administration. Two other groups showed comparable overall survival, local control, and colostomy-free survival rates in two studies with 92 and 95 patients, respectively, with CDDP replacing mitomycin. Less hematologic and other toxicities may be evident with infusional cisplatin, similar to the difference noted in the toxicity profile between bolus and infusional 5FU during postoperative chemoradiation for locally advanced rectal cancer. At this time, there is no evidence demonstrating any superiority of cisplatin over mitomycin.

Dose of Radiation

The appropriate radiation dose for anal cancer has not been fully elucidated. A minimum dose of at least 45 Gy has been established for even the earliest stages of anal cancer, T1N0. Several studies suggest that doses in excess of 55.8 Gy result in higher local control rates than lower doses. However, increased radiation dose did not increase local control when given in a split-course fashion in a Phase 2 Radiation Therapy Oncology Group (RTOG)® study, and a maximum dose of 59 Gy is standard for even the most advanced cases. A split course resulted in less grade 3 or higher toxicity; however, the colostomy rate was also noted to be higher. Therefore, a preplanned split-course of radiation is not recommended. If there are significant skin breakdown issues, a treatment break of no more than 10 days is currently allowed by the most recent RTOG protocol. Conventionally for early-stage disease, radiation doses of 50.4 to 55.8 Gy are often sufficient, whereas for later, bulkier stage disease, doses of 55.8 Gy to 59.4 are generally prescribed.

Nodal Metastasis

Anal cancers spread to the perirectal, inguinal, and internal and external iliac groups of lymph nodes, and this occurs in about 30% of patients in surgical series. Consequently, all four groups of lymph nodes are included in radiotherapy fields described in chemoradiation series.

The presence of synchronous lymph nodes in anal cancer has a marked negative influence on survival and colostomy rates. In the prospective randomized RTOG study the addition of mitomycin C to 5FU and radiotherapy showed a significant benefit in reducing colostomy rates.

With radiotherapy alone, about 70% of inguinal nodes are controlled, whereas 90% of synchronous inguinal nodes are controlled with chemoradiation.

Suitability for Definitive Treatment

Most patients with anal cancer, and even those with locally advanced disease, have good or acceptable general performance status (≥50%). Known human immunodeficiency virus (HIV) infection is not necessarily a contraindication to the use of standard recommended treatments. However, patients with cytopenias or with frank manifestations of acquired immunodeficiency syndrome (AIDS) may have a decreased ability to tolerate treatment. A patient's overall performance status, complete blood count (CBC), and T cell counts (CD3/CD4 status) should be considered in selecting therapy. Ideally, the viral load should be below 10,000 and the CD4 count above 200. Modern HIV therapies have made the treatment of anal

cancer with standard chemoradiation much more feasible, although cases should be individualized pending the results of large randomized trials.

Other relative reasons that might preclude definitive treatment include previous pelvic radiotherapy or surgery and underlying medical, psychiatric, and/or social reasons.

Salvage Treatment

The committee consensus was that progressive or recurrent disease after chemoradiation requires APR for salvage. One group of investigators suggested that salvage with APR is better than that with chemoradiation. In their study, 53% of patients who underwent salvage APR remained alive, compared with only 19% of patients who underwent salvage chemoradiation. Another group indicated that salvage APR results in a 5-year survival rate of about 44%. Patients who have poor prognostic indicators prior to salvage resection are those who initially presented with positive inguinal nodes, fixation of the tumor to the sidewall, or pathologic involvement of the perirectal fat. Another group has shown that the use of 9 Gy along with 5FU and cisplatin can result in an approximate 50% salvage rate for patients with biopsy-proven evidence of residual malignancy 4–6 weeks following completion of chemoradiation; however others argue that a complete response would be achieved with further follow-up, and therefore, they do not recommend a biopsy or salvage chemoradiation.

Treatment of Adenocarcinoma

The Rare Cancer Network (RCN) multicenter study concluded that combined treatment with chemotherapy and radiotherapy is the treatment of choice, giving the best survival rates, and that APR should be reserved for salvage treatment of persistent or recurrent disease.

Abbreviations

- 5FU, 5-fluorouracil
- AP/PA, anteroposterior/posteroanterior
- APR, abdominoperineal resection
- CDDP, cisplatin
- KPS, Karnofsky performance status
- LNs, lymph nodes
- MMC, mitomycin
- PA, posteroanterior
- RT, radiotherapy

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on analysis of the current literature and expert panel consensus.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate selection of treatment procedures for patients with anal cancer

POTENTIAL HARMS

- Mitomycin was associated with increased frequency and severity of toxicity, particularly hematologic toxicity.
- Significant toxicity occurred when combined bolus cisplatin with infusional 5-fluorouracil (5FU) and radiation therapy were used.
- Abdominoperineal resection (and radiotherapy to a lesser degree) results in a permanent colostomy with its associated functional, anatomic, and psychologic complications.
- Radiation therapy can cause breakdown of the skin.

CONTRAINDICATIONS

CONTRAINDICATIONS

- Known human immunodeficiency virus (HIV) infection is not necessarily a contraindication to the use of standard recommended treatments. However, patients with cytopenias or with frank manifestations of acquired immunodeficiency syndrome (AIDS) may have a decreased ability to tolerate treatment.
- Other relative reasons that might preclude definitive treatment include previous pelvic radiotherapy or surgery and underlying medical, psychiatric, and/or social reasons.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

An American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists, and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those exams generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been

considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Personal Digital Assistant (PDA) Downloads

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Poggi MM, Johnstone PA, Blackstock AW, Herman J, Konski AA, Mohiuddin M, Regine WF, Rich TA, Suh WW, Cosman BC, Saltz L, Expert Panel on Radiation Oncology-Rectal/Anal Cancer. Anal cancer. [online publication]. Reston (VA): American College of Radiology (ACR); 2007. 11 p. [36 references]

ADAPTATION

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

DATE RELEASED

1998 (revised 2007)

GUIDELINE DEVELOPER(S)

American College of Radiology - Medical Specialty Society

SOURCE(S) OF FUNDING

The American College of Radiology (ACR) provided the funding and the resources for these ACR Appropriateness Criteria®.

GUIDELINE COMMITTEE

Committee on Appropriateness Criteria, Expert Panel on Radiation Oncology-Rectal/Anal Cancer Work Group

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Panel Members: Matthew M. Poggi, MD; Peter A. Johnstone, MD; A. William Blackstock, MD; Joseph Herman, MD, MSc; Andre A. Konski, MD; Mohammed Mohiuddin, MD; William F. Regine, MD; Tyvin A. Rich, MD; W Warren Suh, MD; Bard C. Cosman, MD; Leonard Saltz, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

It updates a previously published version: American College of Radiology (ACR), Expert Panel on Radiation Oncology-Rectal/Anal Cancer. Anal cancer. Reston (VA): American College of Radiology (ACR); 2002. 11 p. (ACR appropriateness criteria). [31 references]

The appropriateness criteria are reviewed annually and updated by the panels as needed, depending on introduction of new and highly significant scientific evidence.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the American College of Radiology (ACR) Web site.

ACR Appropriateness Criteria® *Anytime*, *Anywhere*™ (PDA application). Available from the ACR Web site.

Print copies: Available from the American College of Radiology, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- ACR Appropriateness Criteria®. Background and development. Reston (VA): American College of Radiology; 2 p. Electronic copies: Available in Portable Document Format (PDF) from the American College of Radiology (ACR) Web site.
- ACR Appropriateness Criteria®. Relative radiation level information. Reston (VA): American College of Radiology; 2 p. Electronic copies: Available in Portable Document Format (PDF) from the American College of Radiology (ACR) Web site.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on March 31, 2003. The information was verified by the guideline developer on April 21, 2003. This NGC summary was updated by ECRI Institute on December 17, 2007.

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