Survivorship – Testicular Cancer: Germ Cell

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RPLND = retroperitoneal lymph node dissection
### ELIGIBILITY

Germinoma tumors, seminoma stage I, 2 or more years from treatment completion and NED

### MONITORING FOR LATE EFFECTS

- Infertility
- Hypogonadism

Patient education, counseling, and screening:
- Lifestyle risk assessment
- Cancer screening
- HPV vaccination as clinically indicated (see HPV Vaccination Algorithm)
- Screening for Hepatitis B and C as clinically indicated (see Hepatitis Screening and Management – HBV and HCV Algorithm)
- Consider cardiovascular risk reduction

### RISK REDUCTION/EARLY DETECTION

Assess for:
- Distress management (see Distress Screening and Psychosocial Management Algorithm)
- Financial stressors
- Social support
- Body image

### PSYCHOSOCIAL FUNCTIONING

- Physical exam with each visit to include thorough exam of supraclavicular lymph nodes and contralateral testicle
- Years 2-5:
  -AFP, beta HCG and LDH every 6 months
  -Chest x-ray every 6 months
  -CT of abdomen and pelvis every 12-24 months
  -Testosterone, glucose, creatinine, and lipid profile annually
  -Testicular ultrasound annually if high-risk
- Years 6-10:
  -Comprehensive metabolic panel (CMP), CBC with platelets, serum testosterone, and lipid profile annually
  -AFP, beta HCG and LDH as clinically indicated
  -Chest x-ray annually (optional)
  -CT of abdomen and pelvis as clinically indicated
  -Testicular ultrasound annually if high-risk
- After year 10:
  -Testosterone, glucose, creatinine, and lipid profile annually
  -Imaging studies as clinically indicated

### DISPOSITION

New primary or recurrent disease?
- Yes
  - Return to primary treating physician
- No
  - Continue survivorship monitoring

Refer or consult as indicated

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1. Annual ultrasound of contralateral testicle if one of the following present: diagnosis of seminoma and less than 30 years old when diagnosed or testicular maldescent or infertility
2. Includes colorectal, liver, lung, pancreatic, prostate, and skin cancer screening
3. See Physical Activity, Nutrition, and Tobacco Cessation algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice
4. Consider use of Vanderbilt’s ABCDE’s approach to cardiovascular health

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Survivorship – Testicular Cancer: Germ Cell
Seminoma Stage I Post Adjuvant Radiation Therapy or Single-Agent Carboplatin

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ELIGIBILITY
Germ cell tumors, seminoma stage I, 2 or more years post-adjuvant radiotherapy or single-agent carboplatin and NED

CONCURRENT COMPONENTS OF VISIT
- Physical exam with each visit to include thorough exam of supraclavicular lymph nodes and contralateral testicle
- Years 2 and 3:
  - AFP, beta HCG, and LDH every 6 months
  - CBC and platelets, testosterone, glucose creatinine, and lipid profile annually
  - Chest x-ray and CT annually (CT of pelvis if post-radiation therapy; CT of abdomen if post-carboplatin)
  - Testicular ultrasound 1 annually if high-risk
- Years 4 and 5:
  - CBC and platelets, AFP, beta HCG, LDH, testosterone, glucose, creatinine, and lipid profile annually
  - Chest x-ray annually
  - CT of abdomen every 12-24 months (CT of pelvis if post-radiation therapy; CT of abdomen if post-carboplatin)
  - Testicular ultrasound 1 annually if high-risk
- Years 6-10:
  - CMP, CBC and platelets, serum testosterone and lipid profile annually
  - AFP, beta HCG, and LDH as clinically indicated
  - Testicular ultrasound 1 annually if high-risk
  - Other imaging as clinically indicated
  - After year 10:
    - CBC and platelets, testosterone, glucose, creatinine, and lipid profile annually
    - Imaging as clinically indicated

SURVEILLANCE
- Infertility
- Hypogonadism
- Cardiovascular disease
- Metabolic syndrome
- Neurotoxicity
- Renal insufficiency

MONITORING FOR LATE EFFECTS
- Patient education, counseling, and screening:
  - Lifestyle risk assessment
  - Cancer screening
  - HPV vaccination as clinically indicated (see HPV Vaccination Algorithm)
  - Screening for Hepatitis B and C as clinically indicated (see Hepatitis Screening and Management – HBV and HCV Algorithm)

RISK REDUCTION/EARLY DETECTION
- Assess for:
  - Distress management (see Distress Screening and Psychosocial Management Algorithm)
  - Financial stressors
  - Body image
  - Social support

PSYCHOSOCIAL FUNCTIONING

DISPOSITION
- Return to primary treating physician
- Refer or consult as indicated

1 Annual ultrasound of contralateral testicle if one of the following is present: diagnosis of seminoma and less than 30 years old when diagnosed or testicular maldescent, or infertility
2 Consider use of Vanderbilt’s ABCDE’s approach to cardiovascular health
3 See Physical Activity, Nutrition, and Tobacco Cessation algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice
4 Includes colorectal, liver, lung, pancreatic, prostate, and skin cancer screening
Survivorship – Testicular Cancer: Germ Cell Non-Seminoma Stage I Surveillance

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**ELIGIBILITY**

- Germ cell tumors, non-seminoma stage I, 2 or more years from completion of treatment and NED

**CONCURRENT COMPONENTS OF VISITS**

- Physical exam with each visit to include thorough exam of supraclavicular lymph nodes and contralateral testicle
- Years 2-5:
  -AFP, beta HCG and LDH every 6 months
  -Testosterone, glucose, creatinine, and lipid profile annually
  -Chest x-ray every 6 months
  -Testicular ultrasound annually if high-risk
  -CT of abdomen and pelvis annually
- Years 6-10:
  -CMP, CBC and platelets, serum testosterone and lipid profile annually
  -AFP, beta HCG and LDH as clinically indicated
  -Testicular ultrasound annually if high-risk
  -After year 10:
  -Testosterone, glucose, creatinine, and lipid profile annually
  -Imaging studies as clinically indicated

**SURVEILLANCE**

- 1 Annual ultrasound of contralateral testicle if one of the following present: diagnosis of seminoma and less than 30 years old when diagnosed or testicular maldescent or infertility
- 2 Includes colorectal, liver, lung, pancreatic, prostate, and skin cancer screening
- 3 Includes colorectal, liver, lung, pancreatic, prostate, and skin cancer screening

**MONITORING FOR LATE EFFECTS**

- Infertility
- Hypogonadism

- Patient education, counseling, and screening:
  - Lifestyle risk assessment
  - Cancer screening
  - HPV vaccination as clinically indicated (see HPV Vaccination Algorithm)
  - Screening for Hepatitis B and C as clinically indicated (see Hepatitis Screening and Management – HBV and HCV Algorithm)
  - Consider cardiovascular risk reduction

**RISK REDUCTION/EARLY DETECTION**

- Assess for:
  - Distress management (see Distress Screening and Psychosocial Management Algorithm)
  - Financial stressors
  - Social support
  - Body image

**PSYCHOSOCIAL FUNCTIONING**

- CMP = comprehensive metabolic panel
- NED = no evidence of disease

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1 Annual ultrasound of contralateral testicle if one of the following present: diagnosis of seminoma and less than 30 years old when diagnosed or testicular maldescent or infertility
2 Includes colorectal, liver, lung, pancreatic, prostate, and skin cancer screening
3 Includes colorectal, liver, lung, pancreatic, prostate, and skin cancer screening
4 Consider use of Vanderbilt’s ABCDE’s approach to cardiovascular health

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The University of Texas MD Anderson Cancer Center
Survivorship – Testicular Cancer: Germ Cell Non-Seminoma Stage I Post-RPLND and/or Adjuvant Chemotherapy

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ELIGIBILITY

CONCURRENT COMPONENTS OF VISIT

- Physical exam with each visit to include thorough exam of supraclavicular lymph nodes and contralateral testicle
- Years 2-5:
  - AFP, beta HCG, and LDH every 6 months
  - Chest x-ray every 6 months
  - Testosterone, glucose, creatinine, and lipid profile annually
  - CBC and platelets annually if adjuvant chemotherapy
  - Testicular ultrasound annually if high risk
  - CT of abdomen and pelvis at year 2 and 5
- Years 6-10:
  - CMP, CBC and platelets, serum testosterone and lipid profile annually
  - AFP, beta HCG and LDH as clinically indicated
  - Chest x-ray annually
  - Testicular ultrasound annually if high risk
  - Other imaging as clinically indicated
- After year 10:
  - Testosterone, glucose, creatinine, and lipid profile annually
  - CBC and platelets annually if adjuvant chemotherapy
  - Imaging as clinically indicated

SURVEILLANCE

MONITORING FOR LATE EFFECTS

- Infertility
- Cardiovascular disease
- Neurotoxicity
- Hypogonadism
- Metabolic syndrome
- Renal insufficiency
- HPV vaccination as clinically indicated (see HPV Vaccination Algorithm)

Risk Reduction/Early Detection

PSYCHOSOCIAL FUNCTIONING

- Patient education, counseling, and screening:
  - Lifestyle risk assessment
  - Cancer screening
  - Screening for Hepatitis B and C as clinically indicated (see Hepatitis Screening and Management – HBV and HCV Algorithm)
- Assess for:
  - Distress management (see Distress Screening and Psychosocial Management Algorithm)
  - Financial stressors
  - Social support
  - Body image

DISPOSITION

- Return to primary treating physician
- Refer or consult as indicated

New primary or recurrent disease?
- Yes
- No

Germ cell tumors, non-seminoma, stage I, 2 or more years post-RPLND and/or adjuvant chemotherapy completion and NED

1. Annual ultrasound of contralateral testicle if one of the following is present: diagnosis of seminoma and less than 30 years old when diagnosed or testicular maldescent, or infertility
2. Consider use of Vanderbilt’s ABCDE’s approach to cardiovascular health
3. See Physical Activity, Nutrition, and Tobacco Cessation algorithms; ongoing reassessment of lifestyle risks should be part of routine clinical practice
4. Includes colorectal, liver, lung, pancreatic, prostate, and skin cancer screening

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Survivorship – Testicular Cancer: Germ Cell
All types, Stages II-IIIC

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ELIGIBILITY

CONCURRENT COMPONENT OF VISIT

- Physical exam with each visit to include thorough exam of supraclavicular lymph nodes and contralateral testicle
- Category 1, years 2-5 or Category 2, years 3-5:
  - AFP, beta HCG, and LDH every 6 months
  - CBC and platelets, testosterone, glucose, creatinine, and lipid profile annually
  - Chest x-ray every 6 months
  - CT of abdomen and pelvis annually
  - Testicular ultrasound annually if high-risk
- Categories 1 and 2, years 6-10:
  - CMP, CBC and platelets, serum testosterone and lipid profile annually
  - AFP, beta HCG and LDH as clinically indicated
  - Chest x-ray annually
  - Testicular ultrasound annually if high-risk
  - CT of abdomen and pelvis every 24 months or as clinically indicated

SURVEILLANCE (both Categories)

MONITORING FOR LATE EFFECTS

- Infertility
- Hypogonadism
- Cardiovascular disease
- Metabolic syndrome
- Neurotoxicity
- Renal insufficiency

RISK REDUCTION/EARLY DETECTION

- Lifestyle risk assessment
- Cancer screening
- HPV vaccination as clinically indicated (see HPV Vaccination Algorithm)
- Screening for Hepatitis B and C as clinically indicated (see Hepatitis Screening and Management – HBV and HCV Algorithm)

PSYCHOSOCIAL FUNCTIONING

- Distress management (see Distress Screening and Psychosocial Management Algorithm)
- Financial stressors
- Social support
- Body image

Assess for:

- Distress management (see Distress Screening and Psychosocial Management Algorithm)
- Financial stressors
- Social support
- Body image

Germ cell tumors, all types, stages II – IIIC after completion of treatment and NED

CMP = comprehensive metabolic panel
NED = no evidence of disease

1 Category 1: germ cell tumors all types, stages II – IIIA; no evidence of disease at 2 years
2 Category 2: germ cell tumors all types, stages IIIB and IIIC; no evidence of disease at 3 years
3 Annual ultrasound of contralateral testicle if one of the following is present: diagnosis of seminoma and less than 30 years old when diagnosed or testicular maldescent, or infertility
4 Consider use of Vanderbilt’s ABCDE’s approach to cardiovascular health
5 See Physical Activity, Nutrition, and Tobacco Cessation algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice
6 Includes colorectal, liver, lung, pancreatic, prostate, and skin cancer screening

DISPOSITION

New primary or recurrent disease?
- Yes
  - Return to primary treating physician
- No
  - Continue survivorship monitoring

Refer or consult as indicated

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Survivorship – Testicular Cancer: Germ Cell

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SUGGESTED READINGS


Continued on next page
SUGGESTED READINGS - continued


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DEVELOPMENT CREDITS

This survivorship algorithm is based on majority expert opinion of the Genitourinary Survivorship work group at The University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following:

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