

TESTICULAR CANCER TREATMENT REGIMENS (Part 1 of 2)

The selection, dosing, and administration of anticancer agents and the management of associated toxicities are complex. Drug dose modifications and schedule and initiation of supportive care interventions are often necessary because of expected toxicities and because of individual patient variability, prior treatment, and comorbidities. Thus, the optimal delivery of anticancer agents requires a healthcare delivery team experienced in the use of such agents and the management of associated toxicities in patients with cancer. The cancer treatment regimens below may include both FDA-approved and unapproved uses/regimens and are provided as references only to the latest treatment strategies. Clinicians must choose and verify treatment options based on the individual patient.

NOTE: GREY SHADED BOXES CONTAIN UPDATED REGIMENS.

General treatment notes:

- Good-risk patients (denoted with an *) means those patients with cancer at any primary site and with no nonpulmonary visceral metastases and a normal alpha-fetoprotein (AFP) level, any human chorionic gonadotropin (HCG) value, and any lactate dehydrogenase (LDH) value.
- Intermediate-risk patients (denoted with a †) means those patients with cancer at any primary site and nonpulmonary visceral metastases and normal AFP, any HCG value, and any LDH value.

REGIMEN	DOSING
Pure Seminoma Germ Cell Tumor	
Primary Treatment Stage 1A, 1B	
Carboplatin (Paraplatin) ¹	Carboplatin AUC=7mg/mL/min IV for 1 or 2 cycles.
Primary Treatment Stage IIB (selected patients) and Stage IIC, III (good-risk patients*)	
EP (etoposide [Toposar, VePesid, Etopophos; VP-16] + cisplatin [Platinol; CDDP]) ^{1,2}	Days 1-5: Etoposide 100mg/m ² IV + cisplatin 20mg/m ² IV. Repeat cycle every 3 weeks for 4 cycles.
BEP (bleomycin [Blenoxane] + etoposide + cisplatin) ^{1,3}	Days 1-5: Cisplatin 20mg/m ² IV + etoposide 100mg/m ² IV. Days 1, 8 and 15: Bleomycin 30units IV. Repeat cycle every 3 weeks for 3 cycles. Some NCCN institutions give bleomycin on Days 2, 9 and 16.
Primary Treatment for Stage IIC, III (intermediate risk patients†)	
BEP ^{1,3}	Days 1-5: Cisplatin 20mg/m ² IV + etoposide 100mg/m ² IV. Days 1, 8 and 15: Bleomycin 30units IV. Repeat cycle every 3 weeks for 4 cycles. Some NCCN institutions give bleomycin on Days 2, 9 and 16.
Nonseminomatous Germ Cell Tumor	
Primary Treatment for Stage 1B	
BEP ^{1,3}	Days 1-5: Cisplatin 20mg/m ² IV + etoposide 100mg/m ² IV. Days 1, 8 and 15: Bleomycin 30units IV. Repeat cycle every 3 weeks for 2 cycles. Some NCCN institutions give bleomycin on Days 2, 9 and 16.
Primary Treatment for Stage IIA, IIB, IIC, IIIA (good-risk patients*)	
EP ^{1,2}	Days 1-5: Etoposide 100mg/m ² IV + cisplatin 20mg/m ² IV. Repeat cycle every 3 weeks for 4 cycles.
BEP ^{1,3}	Days 1-5: Cisplatin 20mg/m ² IV + etoposide 100mg/m ² IV. Days 1, 8 and 15: Bleomycin 30units IV. Repeat cycle every 3 weeks for 3 cycles. Some NCCN institutions give bleomycin on Days 2, 9 and 16.
Primary Treatment for Stage IIIB (intermediate risk patients†)	
BEP ^{1,3}	Days 1-5: Cisplatin 20mg/m ² IV + etoposide 100mg/m ² IV. Days 1, 8 and 15: Bleomycin 30units IV. Repeat cycle every 3 weeks for 4 cycles. Some NCCN institutions give bleomycin on Days 2, 9 and 16.
VIP (etoposide + ifosfamide + cisplatin + mesna [Mesnex]) (for selected patients) ^{1,4}	Days 1-5: Etoposide 75mg/m ² IV + ifosfamide 1,200mg/m ² IV (give mesna 120mg/m ² by slow IV push prior to ifosfamide on Day 1) + cisplatin 20mg/m ² + mesna 1,200mg/m ² continuous IV infusion. Repeat cycle every 3 weeks for 4 cycles.
Second-Line Treatment Conventional Dose Chemotherapy	
VeIP (vinblastine [Alkaban-AQ, Velban; VLB] + ifosfamide [Ifex] + cisplatin + mesna) ^{1,5}	Days 1 and 2: Vinblastine 0.11mg/kg IV push, plus Days 1-5: Ifosfamide 1,200mg/m ² IV + cisplatin 20mg/m ² IV + mesna 1,200mg/m ² IV (400mg/m ² every 8 hrs). Repeat cycle every 3 weeks.

continued

TESTICULAR CANCER TREATMENT REGIMENS (Part 2 of 2)

REGIMEN	DOSING
Second-Line Treatment Conventional Dose Chemotherapy (continued)	
TIP (paclitaxel [Taxol] + ifosfamide + mesna + cisplatin) ^{1,6}	Day 1: Paclitaxel 250mg/m ² IV, followed by Days 2-5: Ifosfamide 1,500mg/m ² + cisplatin 25mg/m ² IV daily + mesna 500mg/m ² IV before ifosfamide and then 4 hrs and 8 hrs after each dose of ifosfamide. Repeat cycle every 3 weeks.
Second-Line Treatment High-Dose Chemotherapy	
Carboplatin + etoposide ^{1,7}	Days -5, -4 and -3: Carboplatin 700mg/m ² IV + etoposide 750mg/m ² IV administered 3 consecutive days 3 days prior to peripheral blood stem cell infusion for 2 cycles.
Paclitaxel + ifosfamide + carboplatin + etoposide + mesna ^{1,8}	Day 1: Paclitaxel 200mg/m ² IV as a 24-hr continuous infusion with peripheral stem cell infusion, plus Days 1-3: Carboplatin AUC=7-8mg/mL/min IV + etoposide 400mg/m ² IV over 60 min, plus Days 2-4: Ifosfamide 2,000mg/m ² IV over 4 hrs (with mesna 2,000mg/m ²). Repeat cycle every 2 or 3 weeks for 3 cycles.
Palliative Chemotherapy Regimen	
GEMOX (gemcitabine [Gemzar] + oxaliplatin [Eloxatin]) ^{1,9-11}	Days 1 and 8: Gemcitabine 1,000mg/m ² IV, plus Day 1: Oxaliplatin 130mg/m ² IV. Repeat cycle every 3 weeks. OR..... Days 1 and 8: Gemcitabine 1,250mg/m ² IV, plus Day 1: Oxaliplatin 130mg/m ² IV. Repeat cycle every 3 weeks.
Gemcitabine + paclitaxel ^{1,12}	Days 1, 8 and 15: Gemcitabine 1,000mg/m ² IV over 30 min + paclitaxel 100mg/m ² IV over 1 hr. Repeat every 4 weeks for a max 6 cycles.
Gemcitabine + paclitaxel + oxaliplatin ^{1,13}	Days 1 and 8: Gemcitabine 800mg/m ² IV + paclitaxel 80mg/m ² IV. Day 1: Oxaliplatin 130mg/m ² IV. Repeat every 3 weeks for at least 2 cycles.
References	
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