Beacon Chemotherapy Dosing Validation Test Script

Treatment Plans | Dosing | Lab Holds | REMS | TechFitFlow.com

Test Cycle:	[ ] Unit [ ] Integrated [ ] Clinical Validation [ ] Full BAT	**Tumor Type:**	_____
Tester:	_____	**Date:**	_____
Pharm Reviewer:	_____	**Build Version:**	_____

BSA-BASED DOSING CALCULATION VALIDATION

ID	Test Description / Steps	Expected Result	Status	Notes / Defect Ref
BEA-001	Select FOLFOX6 treatment plan for test patient: height 170cm, weight 70kg (BSA=1.82 m2 Mosteller). Sign cycle 1. Record Beacon-generated oxaliplatin dose.	Expected: 85 mg/m2 x 1.82 = 154.7 mg. Beacon dose within 1% of manual calculation. Pharmacist confirms dose matches protocol.	[ ] Pass [ ] Fail [ ] N/A	
BEA-002	Select FOLFOX6 for high-BSA test patient: height 190cm, weight 130kg (BSA=2.55 m2). Verify dose cap activates if protocol-defined maximum is set.	If dose cap configured: Beacon applies cap, generated dose does not exceed maximum. Cap value matches protocol document. Pharmacist confirms.	[ ] Pass [ ] Fail [ ] N/A	
BEA-003	Select AC-T (doxorubicin/cyclophosphamide) for test patient: BSA=1.70 m2. Confirm doxorubicin at 60 mg/m2 and cyclophosphamide at 600 mg/m2 generate correctly.	Doxorubicin: 60 x 1.70 = 102 mg. Cyclophosphamide: 600 x 1.70 = 1020 mg. Both within 1% of manual calculation. Pharmacist confirms both agents.	[ ] Pass [ ] Fail [ ] N/A	
BEA-004	Select treatment plan using actual body weight for BSA. Enter obese test patient (BMI 42). Confirm Beacon uses actual weight per institutional ASCO guideline policy.	BSA calculated from actual body weight. Beacon does not substitute ideal or adjusted body weight unless institutional override is explicitly configured. Policy confirmed with	[ ] Pass [ ] Fail [ ] N/A	

CARBOPLATIN AUC DOSING - CALVERT FORMULA VALIDATION

ID	Test Description / Steps	Expected Result	Status	Notes / Defect Ref
BEA-005	Select carboplatin/pemetrexed TP for test patient: AUC target = 5, GFR (CKD-EPI) = 85 mL/min. Manual calculation: 5 x (85+25) = 550 mg. Confirm Beacon generates 550 mg.	Beacon carboplatin dose = 550 mg (+/- 1% rounding). GFR source = CKD-EPI per configuration. AUC target = 5 confirmed. Pharmacist verifies Calvert formula applied correctly.	[ ] Pass [ ] Fail [ ] N/A	
BEA-006	Test GFR cap: Same TP, same patient but with GFR = 140 mL/min. Uncapped dose: 5 x (140+25) = 825 mg. Capped dose: 5 x (125+25) = 750 mg. Confirm Beacon applies cap at 125 mL/min.	Beacon carboplatin dose = 750 mg (capped). Dose is NOT 825 mg. GFR cap confirmation visible in dose calculation details. Pharmacist confirms cap activates.	[ ] Pass [ ] Fail [ ] N/A	
BEA-007	Test carboplatin with low renal function patient: GFR = 30 mL/min (CKD stage 4). Protocol may require AUC reduction or hold. Test appropriate system response.	If hold configured at GFR < 45: Beacon generates hold alert. Order cannot proceed without oncologist override. If AUC reduction: dose = reduced AUC x (30+25). Pharmacist	[ ] Pass [ ] Fail [ ] N/A	

LAB HOLD ALERT BOUNDARY-VALUE TESTING

ID	Test Description / Steps	Expected Result	Status	Notes / Defect Ref

BEA-008	Treatment plan configured with ANC hold at < 1,000/mm3. Post ANC = 999. Attempt to proceed with cycle. Confirm hold alert fires.	Hold alert fires. Cycle cannot be released without oncologist override or ANC rechecked above threshold. Alert message identifies ANC hold criterion.	[ ] Pass [ ] Fail [ ] N/A	
BEA-009	Same treatment plan. Post ANC = 1,000 (exactly at threshold). Confirm whether threshold is inclusive or exclusive per build configuration.	System response matches build configuration (>= 1000 proceeds, or > 1000 proceeds). Boundary value behavior documented and confirmed with oncologist.	[ ] Pass [ ] Fail [ ] N/A	
BEA-010	Post ANC = 1,500. Attempt to proceed with cycle. Confirm hold alert does NOT fire.	Cycle proceeds without ANC hold alert. Treatment plan released for pharmacist verification.	[ ] Pass [ ] Fail [ ] N/A	
BEA-011	Creatinine hold threshold configured at > 1.5 mg/dL for cisplatin TP. Post creatinine = 1.6 mg/dL. Confirm hold alert fires.	Creatinine hold alert fires. Cycle held. Alert references creatinine threshold. Oncologist must acknowledge and override to proceed if clinically appropriate.	[ ] Pass [ ] Fail [ ] N/A	
BEA-012	Bilirubin hold threshold configured at > 2.0 mg/dL. Post total bilirubin = 2.1 mg/dL. Confirm hold fires. Then post bilirubin = 1.9 mg/dL. Confirm no hold.	Hold fires at 2.1 mg/dL. No hold at 1.9 mg/dL. Both boundary values confirmed correct.	[ ] Pass [ ] Fail [ ] N/A	

DOSE MODIFICATION AND CYCLE MANAGEMENT

ID	Test Description / Steps	Expected Result	Status	Notes / Defect Ref
BEA-013	Oncologist selects 75% dose level for FOLFOX6 cycle 3 due to grade 3 neuropathy. Confirm Beacon recalculates oxaliplatin at 75% of full BSA-calculated dose.	Oxaliplatin dose = 85 mg/m2 x BSA x 0.75. Pharmacist confirms 75% dose level applies to oxaliplatin as specified in the dose modification table, not all agents if protocol specifies agent-specific reduction.	[ ] Pass [ ] Fail [ ] N/A	
BEA-014	Cycle 1 of 6-cycle regimen completed. Confirm cycle 2 scheduled date calculates correctly based on inter-cycle interval configured in treatment plan (e.g., 21-day cycle).	Cycle 2 date = Cycle 1 start date + 21 days. Date auto-calculated correctly. Cycle count increments from 1 to 2. Remaining cycle count displays correctly.	[ ] Pass [ ] Fail [ ] N/A	
BEA-015	Hold cycle due to ANC. After hold, oncologist releases cycle with delay. Confirm held cycle reschedules correctly and cycle numbering is maintained.	Held cycle reschedules to new date after release. Cycle number maintained (not reset). Total cycle count unchanged. Laboratory monitoring reminder fires before	[ ] Pass [ ] Fail [ ] N/A	

REMS COMPLIANCE AND HIGH-ALERT SAFETY

ID	Test Description / Steps	Expected Result	Status	Notes / Defect Ref
BEA-016	Attempt to order lenalidomide for patient who is not enrolled in REVLIMID REMS. Confirm order cannot be completed without REMS enrollment.	Order blocked. REMS enrollment required message displays. Prescriber cannot complete order without REMS attestation. REMS program coordinator notified per workflow.	[ ] Pass [ ] Fail [ ] N/A	
BEA-017	Order lenalidomide for female patient of childbearing potential without recent pregnancy test documented. Confirm REMS pregnancy test requirement enforces.	System blocks order. Pregnancy test documentation required within configured time window. Order cannot proceed until pregnancy test result is documented in patient record.	[ ] Pass [ ] Fail [ ] N/A	
BEA-018	Attempt to order intrathecal methotrexate from the IV medication order list. Confirm intrathecal route not available in IV ordering context.	Intrathecal route not available in IV order entry. Methotrexate IT requires dedicated intrathecal order entry pathway. Cross-contamination between routes prevented by build configuration.	[ ] Pass [ ] Fail [ ] N/A	

BEA-019	Order treatment plan with dose exceeding protocol-defined maximum single dose. Confirm hard-stop fires and prevents completion.	Hard-stop alert fires when calculated dose exceeds protocol maximum. Order cannot be signed without pharmacist review and documented clinical justification.	[ ] Pass [ ] Fail [ ] N/A	

SUPPORTIVE CARE AND ANTIEMETIC PROTOCOL

ID	Test Description / Steps	Expected Result	Status	Notes / Defect Ref
BEA-020	Select highly emetogenic chemotherapy (HEC) treatment plan (cisplatin-based). Confirm 3-drug antiemetic protocol generates: ondansetron, aprepitant, dexamethasone.	All three antiemetic agents present in supportive care orders. Pre-chemo, day-of, and take-home antiemetic schedule all present. Pharmacist confirms HEC protocol.	[ ] Pass [ ] Fail [ ] N/A	
BEA-021	Select moderately emetogenic chemotherapy (MEC) treatment plan (FOLFOX). Confirm 2-drug antiemetic protocol generates (5-HT3 + steroid, no NK1 required).	MEC-appropriate antiemetic protocol present. NK1 antagonist not included unless institutional preference adds it. Pharmacist confirms MEC protocol per ASCO/NCCN.	[ ] Pass [ ] Fail [ ] N/A	
BEA-022	Select high-risk FN regimen (e.g., dose-dense AC). Confirm pegfilgrastim order generated at day 2 (24 hours after last chemo), not day 1.	Pegfilgrastim appears on day 2 of cycle, not day 1. Timing relative to last chemo confirmed. Day-of-cycle number in treatment plan matches 24-hours-post-chemo requirement.	[ ] Pass [ ] Fail [ ] N/A	

QA Lead Sign-off: _____ **Oncology Pharmacist:** _____ **Date:** _____ **Cycle #:** ____