Regimen Reference Order

BRST – AC + PACLitaxel (Dose Dense) + trastuzumab

ARIA: BRST – [ddAC-PACL+tras (Phase 1)]
BRST – [dose dense AC-PACL+tras (Phase 2)]

Planned Course: **AC every 14 days for 4 cycles, followed by PACLitaxel and trastuzumab every 14 days for 4 cycles, followed by trastuzumab every 21 days for 16 doses (to complete one year total of trastuzumab)**

Indication for Use: **Breast Cancer Adjuvant or Neo-Adjuvant; HER2 positive**

CVAD: Preferred (VESICANT INVOLVED)

Proceed with treatment if:

Phase 1 (AC + PACLitaxel (Dose Dense) + trastuzumab)

Cycles 1 to 4 (AC)

- ***ANC equal to or greater than 1 x 10^9/L AND Platelets equal to or greater than 100 x 10^9/L***
- ***Creatinine clearance greater than 10 mL/minute***
- ***Bilirubin less than upper limit of normal***
- ***AST/ALT less than 2 times upper limit of normal***

Cycles 5 to 8 (PACLitaxel + trastuzumab)

- ***ANC equal to or greater than 1 x 10^9/L AND Platelets equal to or greater than 100 x 10^9/L***
- ***Bilirubin less than 1.25 times upper limit of normal***
- ***AST/ALT less than 10 times upper limit of normal***

Phase 2 (trastuzumab)

- ***Blood work at provider's discretion: not required to proceed with treatment***
  - ❖ **Contact Physician if parameters not met**

SEQUENCE OF MEDICATION ADMINISTRATION

Pre-treatment Requirements

Drug	Dose	CCMB Administration Guideline
Phase 1 – Cycles 1 to 4 – AC		
Instruct patient to start vigorous oral pre-hydration (600 – 900 mL) the morning of cyclophosphamide treatment **(Self-administered at home)**		

Treatment Regimen – BRST – AC + PACLitaxel (Dose Dense) + trastuzumab

Establish primary solution 500 mL of: normal saline

Drug	Dose	CCMB Administration Guideline
Phase 1 AC + PACLitaxel (Dose Dense) + trastuzumab		
Cycles 1 to 4 – AC		
aprepitant	125 mg	Orally 1 hour pre-chemotherapy
ondansetron	16 mg	Orally 30 minutes pre-chemotherapy
dexamethasone	12 mg	Orally 30 minutes pre-chemotherapy
OLANZapine	2.5 mg	Orally 30 minutes pre-chemotherapy
DOXOrubicin	60 mg/m^2	IV Push over 10 to 15 minutes
cyclophosphamide	600 mg/m^2	IV in normal saline 250 mL over 1 hour
Cycle 5 – PACLitaxel + trastuzumab		
trastuzumab (brand name specific)	6 mg/kg Loading Dose	IV in normal saline 250 mL over 90 minutes **Alert: Ensure brand name on prescription label (indicated in brackets on prescription label) matches prescribed order* **Nursing Alert: PACLitaxel infusion begins after observation period is complete*
cetirizine	20 mg	Orally 1 hour prior to PACLitaxel
dexamethasone	20 mg	IV in normal saline 50 mL over 15 minutes **1 hour** prior to PACLitaxel **Nursing Alert: PACLitaxel starts **1 hour after completion** of dexamethasone infusion*
Wait 1 hour after completion of IV pre-medication(s) before starting PACLitaxel		
PACLitaxel	175 mg/m^2	IV in normal saline 500 mL over 3 hours, following the administration rates below: • Administer at 100 mL/hour for 15 minutes, then • Administer remaining volume over 2 hours and 45 minutes *Use non-DEHP bags and non-DEHP administration sets with 0.2 or 0.22 micron filter* **Nursing Alert: Gently invert bag 8 to 10 times immediately prior to administration of PACLitaxel to evenly distribute the drug*
Cycles 6 to 8 – PACLitaxel + trastuzumab		
trastuzumab (brand name specific)	4 mg/kg	IV in normal saline 250 mL over 30 minutes **Alert: Ensure brand name on prescription label (indicated in brackets on prescription label) matches prescribed order*
cetirizine	20 mg	Orally 1 hour prior to PACLitaxel

dexamethasone	20 mg	IV in normal saline 50 mL over 15 minutes **1 hour** prior to PACLitaxel **Nursing Alert: PACLitaxel starts **1 hour after completion** of dexamethasone infusion*
Wait 1 hour after completion of IV pre-medication(s) before starting PACLitaxel		
PACLitaxel	175 mg/m^2	IV in normal saline 500 mL over 3 hours, following the administration rates below: • Administer at 100 mL/hour for 15 minutes, then • Administer remaining volume over 2 hours and 45 minutes *Use non-DEHP bags and non-DEHP administration sets with 0.2 or 0.22 micron filter* **Nursing Alert: Gently invert bag 8 to 10 times immediately prior to administration of PACLitaxel to evenly distribute the drug*
Phase 2 trastuzumab **(*Note: Phase 2 starts 14 days after Cycle 8, Day 1 of Phase 1*)**		
trastuzumab (brand name specific)	6 mg/kg	IV in normal saline 250 mL over 30 minutes every 21 days for 16 doses **Alert: Ensure brand name on prescription label (indicated in brackets on prescription label) matches prescribed order*
All doses will be automatically rounded that fall within CCMB Approved Dose Bands. See Dose Banding document for more information		

In the event of an infusion-related hypersensitivity reaction, refer to the **'Hypersensitivity Reaction Standing Order'**

REQUIRED MONITORING

Cardiac monitoring

- Left Ventricular Ejection Fraction (LVEF) monitoring recommended
  - During AC treatment: At baseline and after Cycle 4 as per Physician Orders
  - During trastuzumab treatment: Every 4 doses (i.e. 12 weeks) as per Physician Orders

Phase 1

Cycles 1 to 4 (AC)

- CBC, biochemistry and liver enzymes as per Physician Orders

Cycle 5 (PACLitaxel + trastuzumab)

- CBC, biochemistry and liver enzymes as per Physician Orders
- Full vital signs (temperature, heart rate, respiratory rate, blood pressure and O_2 saturation) at baseline and as clinically indicated
- Observe patient for 30 minutes after administration of trastuzumab (first dose). Full vital signs after observation period is complete. PACLitaxel infusion begins after observation period is complete
- No observation period required after PACLitaxel administration. Patient can be discharged from treatment room if stable whether they had a reaction or not

Cycles 6 to 8 (PACLitaxel + trastuzumab)

- CBC, biochemistry and liver enzymes as per Physician Orders
- Full vital signs (temperature, heart rate, respiratory rate, blood pressure and O_2 saturation) at baseline and as clinically indicated
- No observation period is required after trastuzumab or PACLitaxel administration. Patient can be discharged from treatment room if stable whether they had a reaction or not

Phase 2 trastuzumab

- Full vital signs (temperature, heart rate, respiratory rate, blood pressure and O_2 saturation) at baseline and as clinically indicated
- No observation period is required after trastuzumab administration. Patient can be discharged from treatment room if stable whether they had a reaction or not

Recommended Support Medications

Drug	Dose	CCMB Administration Guideline
Phase 1 – Cycles 1 to 4 – AC		
pegfilgrastim (brand name specific) *(See Filgrastim Clinical Guide)*	6 mg	Subcutaneous once on Day 2 **Alert: pegfilgrastim to be given as a single dose once per chemotherapy cycle no sooner than 24 hours after chemotherapy*
aprepitant	80 mg	Orally once daily on Days 2 and 3
dexamethasone	8 mg	Orally once daily on Days 2, 3 and 4
OLANZapine	2.5 mg	Orally the evening of Day 1 then twice daily on Days 2, 3 and 4. Also use OLANZapine 2.5 to 5 mg AS NEEDED for breakthrough nausea and vomiting (including Days 1 to 4) up to a maximum of 10 mg per day. Contact clinic if nausea/vomiting is not adequately controlled
Phase 1 – Cycles 5 to 8 – PACLitaxel + trastuzumab		
pegfilgrastim (brand name specific) *(See Filgrastim Clinical Guide)*	6 mg	Subcutaneously once on Day 2 **Alert: pegfilgrastim to be given as a single dose once per chemotherapy cycle no sooner than 24 hours after chemotherapy*
metoclopramide	10 – 20 mg	Orally every 4 hours as needed for nausea and vomiting
Phase 2 – trastuzumab		
None required		

DISCHARGE INSTRUCTIONS

Phase 1

Cycles 1 to 4 (AC)

- Ensure patient receives pegfilgrastim supply if patient is self-administering at home
- Instruct patient to:
  - Continue taking anti-emetic(s) at home. Patients should be instructed not to use OLANZapine and metoclopramide concurrently due to drug interactions
  - Maintain oral intake of 2000 mL (8 glasses) of fluid daily at home
  - Empty bladder every 2 hours while awake and at bedtime for 24 hours after each dose of cyclophosphamide
  - Obtain immediate assistance as per your clinic's contact instructions if:
    - Symptoms of hemorrhagic cystitis (e.g. dysuria, hematuria)
    - Unable to drink recommended amount of fluid
- Reinforce applicable safe handling precautions of medications, blood and body fluids for 48 hours after completion of chemotherapy

Cycles 5 to 8 (PACLitaxel + trastuzumab)

- Patients should be instructed to contact their cancer team immediately if symptoms of hypersensitivity reactions occur after discharge
- Ensure patient receives pegfilgrastim supply if patient is self-administering at home
- Instruct patient to continue taking anti-emetic(s) at home
- Reinforce applicable safe handling precautions of medications, blood and body fluids for 48 hours after completion of chemotherapy

Phase 2 (trastuzumab)

- Patients should be instructed to contact their cancer team immediately if symptoms of hypersensitivity reactions occur after discharge

ADDITIONAL INFORMATION

- PACLitaxel may cause progressive, irreversible neuropathy
- Cumulative DOXOrubicin dose should be calculated and should not exceed 360 mg/m^2. If exceeding 360 mg/m^2, consideration to adding dexrazoxane should be given if patient is benefiting from DOXOrubicin therapy
- Reassess trastuzumab dose with significant weight changes
- trastuzumab is available from more than one manufacturer and uses several different brand names. Brand name will be indicated in brackets after trastuzumab. **Ensure prescription label matches the brand name on prescribed order**
- **Note:** Upon completion of 8 cycles of **BRST - [ddAC-PACL+tras (Phase 1)]**, patients should be started on maintenance treatment with **BRST – [dose dense AC-PACL+tras (Phase 2)]** to complete 1 year of trastuzumab
  - **BRST – [dose dense AC-PACL+tras (Phase 2)]** should begin 14 days after Cycle 8, Day 1 of **BRST - [ddAC-PACL+tras (Phase 1)]**