The use of colony stimulating factors during chemotherapy for patients who are not at high risk for developing febrile neutropenia

**UTILIZATION: 27%**

**BACKGROUND**
Chemotherapy can damage the body’s ability to make white blood cells, the cells that help fight infection. When a patient’s white blood cell count falls during chemotherapy, he or she may develop febrile neutropenia (FN), a life-threatening illness that can result in hospitalization, delays in treatment, and death. To prevent FN, doctors can administer colony stimulating factors (CSF), drugs that raise the white blood cell count during chemotherapy. Different chemotherapy regimens have different risks of febrile neutropenia.

Expert guidelines recommend using CSF for patients who are receiving chemotherapy that has a high risk of developing febrile neutropenia, and not using CSF for chemotherapy where the risk of febrile neutropenia is low. Studies have shown that CSF use in actual practice does not follow these recommendations. CSF is underused for high FN risk regimens (where it is recommended); and overused in patients receiving low-risk chemotherapy (where is not recommended). Underuse needlessly increases patients’ risk for FN, and overuse exposes patients to side effects and potentially high out-of-pocket costs. The 2012 ABIM/ASCO Choosing Wisely1 Recommendation #5 recommends using colony stimulating factors (CSF) only for patients whose chemotherapy puts them at high risk for developing febrile neutropenia (FN).


**RESULTS**

Clinic variation in CSF use for low and intermediate FN risk patients ranges from no use at all to use in over 55% of patients.

**UTILIZATION BY FN RISK**
Patients with intermediate risk for developing febrile neutropenia were more likely to receive CSF than those at low risk.

**UTILIZATION BY CANCER SITE**
Breast cancer patients had the highest use of CSF in low or intermediate FN risk chemotherapy.

**POPULATION**
N = 1654

Inclusion criteria:
- Breast, Colorectal, or Non-small cell lung cancer
- Diagnosis January 1, 2007 to May 31, 2014
- First primary tumor
- Enrolled at diagnosis through 2 months after the start of chemotherapy
- Received low or intermediate FN risk chemotherapy.

Exclusion criteria:
- Stage: in situ

**DEFINITIONS**
- Chemotherapy: First course of chemotherapy
- CSF use: Within 21 days of the start of low or intermediate FN risk chemotherapy
- FN Risk: Based on the combination of agents received in the first 10 days of first line chemotherapy. When there were multiple options for risk level, due to dose or schedule, the highest FN risk was assigned.