Drug Policy:

Myeloid Growth Factors

POLICY NUMBER UM ONC_1072	**SUBJECT** Myeloid Growth Factors [Neupogen (filgrastim), Granix (tbo-filgrastim), Sargramostim (leukine), Zarxio (filgrastim-sndz), Nivestym (filgrastim-aafi), Neulasta/Neulasta Onpro Kit (pegfilgrastim) Kit, Fulphila (pegfilgrastim-jmdb), Udenyca (pegfilgrastim-cbqv) and Ziextenzo (pegfilgrastim-bmez,Nyvepria (pegfilgrastim-apgf))]	**DEPT/PROGRAM** UM Dept	**PAGE 1 of 18**
DATES COMMITTEE REVIEWED 02/23/11, 03/08/12, 07/10/13, 04/09/14, 09/10/14, 10/14/15, 07/26/16, 03/08/17, 06/14/17, 06/13/18, 09/12/18, 10/10/18, 01/09/19, 07/10/19, 09/11/19, 12/11/19, 01/08/20, 02/12/20, 03/11/20, 04/08/20, 05/13/20, 08/27/20, 11/11/20, 01/13/21, 05/12/21, 09/08/21, 11/15/21, 02/09/22	**APPROVAL DATE** February 9, 2022	**EFFECTIVE DATE** February 25, 2022	**COMMITTEE APPROVAL DATES** 02/23/11, 03/08/12, 07/10/13, 04/09/14, 09/10/14, 10/14/15, 07/26/16, 03/08/17, 06/14/17, 06/13/18, 09/12/18, 10/10/18, 01/09/19, 07/10/19, 09/11/19, 12/11/19, 01/08/20, 02/12/20, 03/11/20, 04/08/20, 05/13/20, 08/27/20, 11/11/20, 01/13/21, 05/12/21, 09/08/21, 11/15/21, 02/09/22
PRIMARY BUSINESS OWNER: UM		**COMMITTEE/BOARD APPROVAL** Utilization Management Committee	
URAC STANDARDS HUM 1	**NCQA STANDARDS** UM 2		**ADDITIONAL AREAS OF IMPACT**
CMS REQUIREMENTS	**STATE/FEDERAL REQUIREMENTS**		**APPLICABLE LINES OF BUSINESS** Commercial, Exchange, Medicaid

I. PURPOSE

To define and describe the accepted indications for Myeloid Growth Factors [Neupogen (filgrastim), Granix (tbo-filgrastim), Sargramostim (leukine), Zarxio (filgrastim-sndz), Nivestym (filgrastim-aafi), Neulasta/Neulasta Onpro Kit (pegfilgrastim) Kit, Fulphila (pegfilgrastim-jmdb), Udenyca (pegfilgrastim-cbqv), Ziextenzo (pegfilgrastim-bmez, and Nyvepria (pegfilgrastim-apgf),] usage in the treatment of cancer, including FDA approved indications, and off-label indications.

New Century Health (NCH) is responsible for processing all medication requests from network ordering providers. Medications not authorized by NCH may be deemed as not approvable and therefore not reimbursable.

The use of this drug must be supported by one of the following: FDA approved product labeling, CMS-approved compendia, National Comprehensive Cancer Network (NCCN), American Society of

Clinical Oncology (ASCO) clinical guidelines, or peer-reviewed literature that meets the requirements of the CMS Medicare Benefit Policy Manual Chapter 15.

II. INDICATIONS FOR USE/INCLUSION CRITERIA

A. PREFERRED MEDICATION GUIDANCE FOR INITIAL REQUEST:

1. When health plan Medicaid coverage provisions—including any applicable PDLs (Preferred Drug Lists)—conflict with the coverage provisions in this drug policy, health plan Medicaid coverage provisions take precedence per the Preferred Drug Guidelines OR
2. When health plan Exchange coverage provisions-including any applicable PDLs (Preferred Drug Lists)-conflict with the coverage provisions in this drug policy, health plan Exchange coverage provisions take precedence per the Preferred Drug Guidelines OR
3. For Health Plans that utilize NCH UM Oncology Clinical Policies as the initial clinical criteria, the Preferred Drug Guidelines shall follow NCH L1 Pathways when applicable, otherwise shall follow NCH drug policies AND
4. Continuation requests of previously approved, non-preferred medication are not subject to this provision AND
5. When applicable, generic alternatives are preferred over brand-name drugs AND
6. Zarxio (filgrastim-sndz) and Granix (tbo-filgrastim) are the PREFERRED medications whenever a myeloid growth factor is requested AND
7. Long acting MGFs (pegfilgrastim products) are NON-PREFERRED and will be approved only if there is a contraindication/intolerance to a short acting MGF, member is unable to self-administer due to limitations, AND the member is unable to travel to the office for daily injections.

B. Prophylaxis/Prevention of Febrile Neutropenia from Chemotherapy.

1. NOTE: NCH Policy does not recommend the use of MGF (either short acting or long acting) for the treatment of afebrile neutropenia. This position is supported by Level 1 evidence showing no clinical benefit from MGF therapy in the above clinical setting.[A] Please see attachment C for MGF indications for febrile neutropenia primary and secondary prophylaxis.
2. The member has a solid tumor or non-myeloid malignancy and is receiving MGF for any of the following:
    a. MGF is being used for chemotherapy with high-risk (> 20%) for febrile neutropenia (please refer to attachment B for a list of cytotoxic drugs with high-risk for febrile neutropenia) OR
    b. MGF is being used with chemotherapy with an intermediate-risk (10% to 20%) for febrile neutropenia AND the member has ONE or more of the following risk factors:
        i. Age ≥ 65 years; extensive prior chemotherapy or radiation therapy; persistent/pre-existing neutropenia; bone marrow involvement by tumor; recent surgery and/or open wounds; liver dysfunction (Bili > 2.0), or renal dysfunction (CrCl < 50).
3. MGF use is supported as Secondary Prophylaxis for members with solid tumors or non-myeloid malignancies who experienced any of the following:
    a. A prior episode of febrile neutropenia with the current chemotherapy OR
    b. A neutropenic event leading to chemotherapy dose delay or dose decrease in the curative intent setting.

C. Myelodysplastic Syndromes (MDS)

1. A short acting MGF (NCH preferred is Zarxio or Granix) is being used in combination with lenalidomide and/or epoetin or darbepoetin alpha in members with no response to erythropoietin alone OR
2. The member has MDS and a short acting MGF (NCH preferred is Zarxio or Granix) is being used for neutropenia AND prevention of infections.

D. Treatment of Febrile Neutropenia

1. Member has documented febrile neutropenia as defined by the Infectious Disease Society of America as: An ANC (Absolute Neutrophil Count) of <1000 cells/micoL AND a single oral temperature of ≥ 38.3 degree C (101 degree F) or a temperature of ≥ 38.0 degree C (100.4 degree F) sustained over a 1 hour period AND
2. A short acting MGF (NCH Preferred is Zarxio or Granix) is being used with appropriate antibiotic therapy.

E. Use of MGF in Members Receiving Concurrent Chemoradiation

1. For members on concurrent chemoradiation, the use of long acting MGF (e.g., pegfilgrastim and biosimilars) is not recommended per NCH policy.
2. For members on concurrent chemoradiation, the use of short acting MGF (e.g., filgrastim and biosimilars) is supported during the period when radiation therapy is being held due to neutropenia.

F. Peripheral Blood Stem Cell (PBSC) Mobilization

1. A short acting MGF (NCH Preferred is Zarxio or Granix) may be used for PBSC mobilization prior to and during leukapheresis in members undergoing an autologous PBSC collection and therapy.

III. EXCLUSION CRITERIA

A. Primary prophylaxis for febrile neutropenia with MGF is not recommended for use with non-cytotoxic drugs, please refer to attachment A for a list of non-cytotoxic drugs. MGF use with these drugs will be reviewed on a case-by-case basis (e.g., when clinically indicated, in combination with chemotherapy, or as secondary prophylaxis).

B. MGF use for primary prophylaxis of febrile neutropenia in members who are receiving treatment that has a low risk for febrile neutropenia. Please see attachment A: Non-Cytotoxic Drug List (Low-Risk).

C. MGF use for the treatment of afebrile neutropenia.

D. Member is not receiving myelosuppressive chemotherapy for non-myeloid malignancy or solid tumor.

E. Pegfilgrastim use with weekly myelosuppressive chemotherapy regimens (Neupogen, Leukine, Zarxio, Nivestym, or Granix should be used in these circumstances).

F. Neupogen, Leukine, Zarxio, Nivestym, or Granix use within 7 days of Pegfilgrastim.

G. Pegfilgrastim use in myeloid malignancies or MDS, except for members with AML/ALL in remission who are receiving consolidation chemotherapy (e.g., HIDAC- High Dose Ara C).

H. Dosing exceeds single dose limit for a long acting MGF (pegfilgrastim product) 6 mg.

I. Dosing exceeds single dose limit for a short acting MGF (figrastim product) 5 mcg/kg/day (rounded down to the nearest vial size in doses of 300 mcg for ≤ 60 kg or 480 mcg for > 60 kg) Exception: for members undergoing an autologous PBSC collection, do not exceed filgrastim 10

mcg/kg/day.Dosing exceeds single dose limit for Leukine (sargramostim) 250 mcg/m2/day (SC) or 500 mg/m2/day (IV).

J. Investigational use of Myeloid Growth Factors [Neupogen (filgrastim), Granix (tbo-filgrastim), Sargramostim (leukine), Zarxio (filgrastim-sndz), Nivestym (filgrastim-aafi), Neulasta/Neulasta Onpro Kit (pegfilgrastim) Kit, Fulphila (pegfilgrastim-jmdb), Udenyca (pegfilgrastim-cbqv), Ziextenzo (pegfilgrastim-bmez, and Nyvepria (pegfilgrastim-apgf),] with an off-label indication that is not sufficient in evidence or is not generally accepted by the medical community. Sufficient evidence that is not supported by CMS recognized compendia or acceptable peer reviewed literature is defined as any of the following:

1. Whether the clinical characteristics of the patient and the cancer are adequately represented in the published evidence.
2. Whether the administered chemotherapy/biologic therapy/immune therapy/targeted therapy/other oncologic therapy regimen is adequately represented in the published evidence.
3. Whether the reported study outcomes represent clinically meaningful outcomes experienced by patients. Generally, the definition of Clinically Meaningful outcomes are those recommended by ASCO, e.g., Hazard Ratio of < 0.80 and the recommended survival benefit for OS and PFS should be at least 3 months.
4. Whether the experimental design, in light of the drugs and conditions under investigation, is appropriate to address the investigative question. (For example, in some clinical studies, it may be unnecessary or not feasible to use randomization, double blind trials, placebos, or crossover).
5. That non-randomized clinical trials with a significant number of subjects may be a basis for supportive clinical evidence for determining accepted uses of drugs.
6. That case reports are generally considered uncontrolled and anecdotal information and do not provide adequate supportive clinical evidence for determining accepted uses of drugs.
7. That abstracts (including meeting abstracts) without the full article from the approved peer-reviewed journals lack supporting clinical evidence for determining accepted uses of drugs.

IV. MEDICATION MANAGEMENT

A. Please refer to the FDA label/package insert for details regarding these topics.

V. APPROVAL AUTHORITY

A. Review – Utilization Management Department

B. Final Approval – Utilization Management Committee

VI. ATTACHMENTS

A. Attachment A: Non-Cytotoxic Drug List (Low-Risk)

B. Attachment B: Cytotoxic Drug List (High-Risk)

C. Attachment C: MGF indications for febrile neutropenia primary and secondary prophylaxis

VII. REFERENCES

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Attachment A: Non-Cytotoxic Drug List (Low-Risk)

Drug Class	Brand Drug name	Generic Drug name
ANDROGEN BIOSYNTHESIS INHIBITOR	ZYTIGA	ABIRATERONE
ANDROGEN RECEPTOR INHIBITOR	ERLEADA	APALUTAMIDE
ANDROGEN RECEPTOR INHIBITOR	CASODEX	BICALUTAMIDE
ANDROGEN RECEPTOR INHIBITOR	NUBEQA	DAROLUTAMIDE
ANDROGEN RECEPTOR INHIBITOR	XTANDI	ENZALUTAMIDE
ANDROGEN RECEPTOR INHIBITOR	EULEXIN	FLUTAMIDE
ANDROGEN RECEPTOR INHIBITOR	NILANDRON	NILUTAMIDE
ASPARAGINASE PRODUCTS	ERWINAZE, RYLAZE, ONCASPAR, ALSPAR	ASPARAGINASE
BIOLOGIC RESPONSE MODIFIER	TICE BCG	BACILLUS CALMETTE AND GUERIN (BCG) LIVE
CD123-DIRECTED CYTOTOXIN	ELZONRIS	TAGRAXOFUSP-ERZS
AROMATASE INHIBITOR	ARIMIDEX	ANASTROZOLE
AROMATASE INHIBITOR	AROMASIN	EXEMESTANE
AROMATASE INHIBITOR	FEMARA	LETROZOLE
CYCLIN-DEPENDENT KINASE (CDK) INHIBITOR: CDK 4 AND 6	VERZENIO	ABEMACICLIB
CYCLIN-DEPENDENT KINASE (CDK) INHIBITOR: CDK 4 AND 6	IBRANCE	PALBOCICLIB
CYCLIN-DEPENDENT KINASE (CDK) INHIBITOR: CDK 4 AND 6	KISQALI	RIBOCICLIB
ESTROGEN HORMONE	ESTINYL	ETHINYL ESTRADIOL
ESTROGEN RECEPTOR ANTAGONIST	FASLODEX	FULVESTRANT
GONADOTROPIN-RELEASING HORMONE (GNRH OR LHRH) AGONIST	ZOLADEX	GOSERELIN
GONADOTROPIN-RELEASING HORMONE (GNRH OR LHRH) AGONIST	VANTAS	HISTRELIN
GONADOTROPIN-RELEASING HORMONE (GNRH OR LHRH) AGONIST	LUPRON	LEUPRORELIN
GONADOTROPIN-RELEASING HORMONE (GNRH OR LHRH) AGONIST	TRELSTAR	TRIPTORELIN

GONADOTROPIN-RELEASING HORMONE (GNRH OR LHRH) RECEPTOR ANTAGONIST	FIRMAGON	DEGARELIX
GONADOTROPIN-RELEASING HORMONE (GNRH OR LHRH) RECEPTOR ANTAGONIST	ORGOVYX	RELUGOLIX
HEDGEHOG PATHWAY INHIBITOR	DAURISMO	GLASDEGIB
HEDGEHOG PATHWAY INHIBITOR	ODOMZO	SONIDEGIB
HEDGEHOG PATHWAY INHIBITOR	ERIVEDGE	VISMODEGIB
HISTONE DEACETYLASE (HDAC) INHIBITOR	BELEODAQ	BELINOSTAT
HISTONE DEACETYLASE (HDAC) INHIBITOR	FARYDAK	PANOBINOSTAT
HISTONE DEACETYLASE (HDAC) INHIBITOR	ZOLINZA	VORINOSTAT
IMMUNOMODULATORY AGENT	REVLIMID	LENALIDOMIDE
IMMUNOMODULATORY AGENT	POMALYST	POMALIDOMIDE
IMMUNOMODULATORY AGENT	THALOMID	THALIDOMIDE
IMMUNOSUPPRESSIVE AGENT	ATGAM	ANTITHYMOCYTE GLOBULIN, EQUINE
IMMUNOSUPPRESSIVE AGENT	SANDIMMUNE, NEORAL	CYCLOSPORIN
IMMUNOSUPPRESSIVE AGENT	PROGRAF	TACROLIMUS
KINASE INHIBITOR	REZUROCK	BELUMOSUDIL
KINASE INHIBITOR	ALIQOPA	COPANLISIB
METHYLTRANSFERASE INHIBITOR	TAZVERIK	TAZEMETOSTAT
MISCELLANEOUS ANTINEOPLASTIC AGENT	TRISENOX	ARSENIC TRIOXIDE
MONOCLONAL ANTIBODY	KADCYLA	ADO-TRASTUZUMAB EMTANSINE
MONOCLONAL ANTIBODY	CAMPATH	ALEMTUZUMAB
MONOCLONAL ANTIBODY	RYBREVANT	AMIVANTAMAB-VMJW
MONOCLONAL ANTIBODY	TECENTRIQ	ATEZOLIZUMAB
MONOCLONAL ANTIBODY	BAVENCIO	AVELUMAB
MONOCLONAL ANTIBODY	BLENREP	BELANTAMAB MAFODOTIN-BLMF
MONOCLONAL ANTIBODY	AVASTIN	BEVACIZUMAB
MONOCLONAL ANTIBODY	MVASI	BEVACIZUMAB - AWWB
MONOCLONAL ANTIBODY	ZIRABEV	BEVACIZUMAB - BVZR
MONOCLONAL ANTIBODY	BLINCYTO	BLINATUMOMAB
MONOCLONAL ANTIBODY	CABLIVI	CAPLACIZUMAB-YHDP
MONOCLONAL ANTIBODY	LIBTAYO	CEMIPLIMAB

MONOCLONAL ANTIBODY	ERBITUX	CETUXIMAB
MONOCLONAL ANTIBODY	ADAKVEO	CRIZANLIZUMAB -TMCA
MONOCLONAL ANTIBODY	DARZALEX	DARATUMUMAB
MONOCLONAL ANTIBODY	DARZALEX FASPRO	DARATUMUMAB/HYALURONIDASE -FIHJ
MONOCLONAL ANTIBODY	PROLIA	DENOSUMAB PROLIA
MONOCLONAL ANTIBODY	XGEVA	DENOSUMAB XGEVA
MONOCLONAL ANTIBODY	UNITUXIN	DINUTUXIMAB
MONOCLONAL ANTIBODY	JEMPERLI	DOSTARLIMAB-GXLY
MONOCLONAL ANTIBODY	IMFINZI	DURVALUMAB
MONOCLONAL ANTIBODY	EMPLICITI	ELOTUZUMAB
MONOCLONAL ANTIBODY	GAMIFANT	EMAPALUMAB-LZSG
MONOCLONAL ANTIBODY	PADCEV	ENFORTUMAB VEDOTIN-EJFV
MONOCLONAL ANTIBODY	ENHERTU	FAM-TRASTUZUMAB DERUXTECAN-NXKI
MONOCLONAL ANTIBODY	YERVOY	IPILIMUMAB
MONOCLONAL ANTIBODY	ZYNLONTA	LONCASTUXIMAB TESIRINE-LPYL
MONOCLONAL ANTIBODY	MARGENZA	MARGETUXIMAB-CMKB
MONOCLONAL ANTIBODY	POTELIGEO	MOGAMULIZUMAB - KPKC
MONOCLONAL ANTIBODY	LUMOXITI	MOXETUMOMAB PASUDOTOX-TDFK
MONOCLONAL ANTIBODY	DANYELZA	NAXITAMAB-GQGK
MONOCLONAL ANTIBODY	OPDIVO	NIVOLUMAB
MONOCLONAL ANTIBODY	GAZYVA	OBINUTUZUMAB
MONOCLONAL ANTIBODY	ARZERRA	OFATUMUMAB INJECTION
MONOCLONAL ANTIBODY	VECTIBIX	PANITUMUMAB
MONOCLONAL ANTIBODY	KEYTRUDA	PEMBROLIZUMAB
MONOCLONAL ANTIBODY	PERJETA	PERTUZUMAB
MONOCLONAL ANTIBODY	PHESGO	PERTUZUMAB/TRASTUZUMAB/HYALURONIDASE-ZZXF
MONOCLONAL ANTIBODY	CYRAMZA	RAMUCIRUMAB
MONOCLONAL ANTIBODY	RITUXAN HYCELA	RITUXIMAB AND HYALURONIDASE HUMAN
MONOCLONAL ANTIBODY	RITUXAN	RITUXIMAB INJECTION
MONOCLONAL ANTIBODY	TRUXIMA	RITUXIMAB-ABBS
MONOCLONAL ANTIBODY	RIABNI	RITUXIMAB-ARRX
MONOCLONAL ANTIBODY	RUXIENCE	RITUXIMAB-PVVR
MONOCLONAL ANTIBODY	SYLVANT	SILTUXIMAB
MONOCLONAL ANTIBODY	HERCEPTIN	TRASTUZUMAB

MONOCLONAL ANTIBODY	HERCEPTIN HYLECTA	TRASTUZUMAB/HYALURONIDASE-OYSK
MONOCLONAL ANTIBODY	KANJINTI	TRASTUZUMAB-ANNS
MONOCLONAL ANTIBODY	OGIVRI	TRASTUZUMAB-DKST
MONOCLONAL ANTIBODY	ONTRUZANT	TRASTUZUMAB-DTTB
MONOCLONAL ANTIBODY	HERZUMA	TRASTUZUMAB-PKRB
MONOCLONAL ANTIBODY	TRAZIMERA	TRASTUZUMAB-QYYP
MTOR INHIBITOR	AFINITOR	EVEROLIMUS
MTOR INHIBITOR	RAPAMUNE	SIROLIMUS
MTOR INHIBITOR	TORISEL	TEMSIROLIMUS
NONSTEROIDAL ANTIESTROGEN	NOVALDEX/SOLTAMOX	TAMOXIFEN
NONSTEROIDAL ANTIESTROGEN	FARESTON	TOREMIFENE
ONCOLYTIC VIRUS	IMLYGIC	TALIMOGENE LAHERPAREPVEC
POLY (ADP-RIBOSE) POLYMERASE (PARP) INHIBITOR	ZEJULA	NIRAPARIB
POLY (ADP-RIBOSE) POLYMERASE (PARP) INHIBITOR	LYNPARZA	OLAPARIB
POLY (ADP-RIBOSE) POLYMERASE (PARP) INHIBITOR	RUBRACA	RUCAPARIB
POLY (ADP-RIBOSE) POLYMERASE (PARP) INHIBITOR	TALZENNA	TALAZOPARIB
PROGESTERONE HORMONE	PROVERA	MEDROXYPROGESTERONE ACETATE
PROGESTERONE HORMONE	MEGACE ES	MEGESTROL
RAS GTPASE FAMILY INHIBITOR	LUMAKRAS	SOTORASIB
RETINOIDS	SORIATANE	ACITRETIN
RETINOIDS	TARGRETIN	BEXAROTENE
RETINOIDS	TRETINOIN	TRETINOIN
TYROSINE KINASE INHIBITOR (TKI)	CALQUENCE	ACALABRUTINIB
TYROSINE KINASE INHIBITOR (TKI)	GILOTRIF	AFATINIB
TYROSINE KINASE INHIBITOR (TKI)	ALECENSA	ALECTINIB
TYROSINE KINASE INHIBITOR (TKI)	PIQRAY	ALPELISIB
TYROSINE KINASE INHIBITOR (TKI)	AYVAKIT	AVAPRITINIB
TYROSINE KINASE INHIBITOR (TKI)	INLYTA	AXITINIB
TYROSINE KINASE INHIBITOR (TKI)	MEKTOVI	BINIMETINIB
TYROSINE KINASE INHIBITOR (TKI)	BOSULIF	BOSUTINIB
TYROSINE KINASE INHIBITOR (TKI)	ALUNBRIG	BRIGATINIB
TYROSINE KINASE INHIBITOR (TKI)	COMETRIQ	CABOZANTINIB
TYROSINE KINASE INHIBITOR (TKI)	CABOMETYX	CABOZANTINIB {CABOMETYX}
TYROSINE KINASE INHIBITOR (TKI)	TABRECTA	CAPMATINIB
TYROSINE KINASE INHIBITOR (TKI)	ZYKADIA	CERITINIB
TYROSINE KINASE INHIBITOR (TKI)	COTELLIC	COBIMETINIB

TYROSINE KINASE INHIBITOR (TKI)	XALKORI	CRIZOTINIB
TYROSINE KINASE INHIBITOR (TKI)	TAFINLAR	DABRAFENIB
TYROSINE KINASE INHIBITOR (TKI)	VIZIMPRO	DACOMITINIB
TYROSINE KINASE INHIBITOR (TKI)	SPRYCEL	DASATINIB
TYROSINE KINASE INHIBITOR (TKI)	IDHIFA	ENASIDENIB
TYROSINE KINASE INHIBITOR (TKI)	BRAFTOVI	ENCORAFENIB
TYROSINE KINASE INHIBITOR (TKI)	ROZLYTREK	ENTRECTINIB
TYROSINE KINASE INHIBITOR (TKI)	BALVERSA	ERDAFITINIB
TYROSINE KINASE INHIBITOR (TKI)	TARCEVA	ERLOTINIB
TYROSINE KINASE INHIBITOR (TKI)	INREBIC	FEDRATINIB
TYROSINE KINASE INHIBITOR (TKI)	TAVALISSE	FOSTAMATINIB
TYROSINE KINASE INHIBITOR (TKI)	IRESSA	GEFITINIB
TYROSINE KINASE INHIBITOR (TKI)	XOSPATA	GILTERITINIB
TYROSINE KINASE INHIBITOR (TKI)	IMBRUVICA	IBRUTINIB
TYROSINE KINASE INHIBITOR (TKI)	ZYDELIG	IDELALISIB
TYROSINE KINASE INHIBITOR (TKI)	GLEEVEC	IMATINIB
TYROSINE KINASE INHIBITOR (TKI)	TRUSELTIQ	INFIGRATINIB
TYROSINE KINASE INHIBITOR (TKI)	TIBSOVO	IVOSIDENIB
TYROSINE KINASE INHIBITOR (TKI)	TYKERB	LAPATINIB
TYROSINE KINASE INHIBITOR (TKI)	VITRAKVI	LAROTRECTINIB
TYROSINE KINASE INHIBITOR (TKI)	LENVIMA	LENVATINIB
TYROSINE KINASE INHIBITOR (TKI)	LORBRENA	LORLATINIB
TYROSINE KINASE INHIBITOR (TKI)	RYDAPT	MIDOSTAURIN
TYROSINE KINASE INHIBITOR (TKI)	NERLYNX	NERATINIB
TYROSINE KINASE INHIBITOR (TKI)	TASIGNA	NILOTINIB
TYROSINE KINASE INHIBITOR (TKI)	TAGRISSO	OSIMERTINIB
TYROSINE KINASE INHIBITOR (TKI)	VOTRIENT	PAZOPANIB
TYROSINE KINASE INHIBITOR (TKI)	PEMAZYRE	PEMIGATINIB
TYROSINE KINASE INHIBITOR (TKI)	TURALIO	PEXIDARTINIB
TYROSINE KINASE INHIBITOR (TKI)	ICLUSIG	PONATINIB
TYROSINE KINASE INHIBITOR (TKI)	GAVRETO	PRALSETINIB
TYROSINE KINASE INHIBITOR (TKI)	STIVARGA	REGORAFENIB
TYROSINE KINASE INHIBITOR (TKI)	JAKAFI	RUXOLITINIB
TYROSINE KINASE INHIBITOR (TKI)	KOSELUGO	SELUMETINIB
TYROSINE KINASE INHIBITOR (TKI)	NEXAVAR	SORAFENIB
TYROSINE KINASE INHIBITOR (TKI)	SUTENT	SUNITINIB
TYROSINE KINASE INHIBITOR (TKI)	TEPMETKO	TEPOTINIB
TYROSINE KINASE INHIBITOR (TKI)	FOTIVDA	TIVOZANIB
TYROSINE KINASE INHIBITOR (TKI)	MEKINIST	TRAMETINIB
TYROSINE KINASE INHIBITOR (TKI)	TUKYSA	TUCATINIB
TYROSINE KINASE INHIBITOR (TKI)	UKONIQ	UMBRALISIB
TYROSINE KINASE INHIBITOR (TKI)	CAPRELSA	VANDETANIB

TYROSINE KINASE INHIBITOR (TKI)	ZELBORAF	VEMURAFENIB
TYROSINE KINASE INHIBITOR (TKI)	BRUKINSA	ZANUBRUTINIB
VEGF DIRECTED INHIBITOR	ZALTRAP	ZIV-AFLIBERCEPT

Attachment B: Cytotoxic Drug List (High-Risk)

Regimen Name
ASPARAGINASE ERWINIA CHRYSANTHEMI (RECOMBINANT)-RYWN
ATRA + ARSENIC TRIOXIDE + GEMTUZUMAB
AXICABTAGENE CILOLEUCEL
BEVACIZUMAB + TOPOTECAN
BLEOMYCIN + ETOPOSIDE + DOXORUBICIN + CYCLOPHOSPHAMIDE + VINCRISTINE + PROCARBAZINE + PREDNISONE
BLINATUMOMAB
BLINATUMOMAB +/- BOSUTINIB or DASATINIB or NILOTINIB or PONATINIB or IMATINIB
BORTEZOMIB + DEXAMETHASONE + THALIDOMIDE + CISPLATIN + DOXORUBICIN + CYCLOPHOSPHAMIDE + ETOPOSIDE
BORTEZOMIB + DEXAMETHASONE + THALIDOMIDE + CISPLATIN + DOXORUBICIN + CYTOXAN + ETOPOSIDE (VTD-PACE)
CALGB 10403 CONSOLIDATION (CYCLOPHOSPHAMIDE + CYTARABINE + VINCRISTINE + PEGASPARGASE + MERCAPTOPURINE + METHOTREXATE)
CALGB 10403 CONTINUATION MAINTENANCE (VINCRISTINE + PEGASPARGASE + MERCAPTOPURINE + METHOTREXATE)
CALGB 10403 DELAYED INTENSIFICATION (METHOTREXATE + DEXAMETHASONE + DOXORUBICIN + PEGASPARGASE + CYCLOPHOSPHAMIDE + THIOGUANINE + CYTARABINE)
CALGB 10403 INDUCTION (DAUNORUBICIN + VINCRISTINE + PREDNISONE + PEGASPARGASE)
CALGB 10403 INTERIM MAINTENANCE (VINCRISTINE + PEGASPARGASE + MERCAPTOPURINE + METHOTREXATE)
CALGB 10403 REMISSION INDUCTION (DAUNORUBICIN + VINCRISTINE + PREDNISONE + PEGASPARGASE)
CALGB 8811 EARLY INTENSIFICATION (CYCLOPHOSPHAMIDE + MERCAPTOPURINE + CYTARABINE + METHOTREXATE + VINCRISTINE + PEGASPARGASE)
CALGB 8811 INDUCTION (DAUNORUBICIN + VINCRISTINE + PREDNISONE + PEGASPARGASE + CYCLOPHOSPHAMIDE)
CALGB 8811 LATE INTENSIFICATION (DOXORUBICIN + VINCRISTINE + DEXAMETHASONE + CYCLOPHOSPHAMIDE + THIOGUANINE + CYTARABINE)
CARBOPLATIN + DOCETAXEL + CETUXIMAB
CARMUSTINE + CYTARABINE + ETOPOSIDE + MELPHALAN (MINI-BEAM)
CISPLATIN + CYTARABINE + DEXAMETHASONE (DHAP)
CISPLATIN + CYTARABINE + DEXAMETHASONE (DHAP) + BRENTUXIMAB
CISPLATIN + DOCETAXEL + CETUXIMAB
CLADRIBINE + CYTARABINE + G-CSF
CLADRIBINE + CYTARABINE + IDARUBICIN + G-CSF

CLADRIBINE + CYTARABINE + MITOXANTRONE + G-CSF
CLOFARABINE
CLOFARABINE + CYTARABINE
CLOFARABINE + CYTARABINE + IDARUBICIN
CLOFARABINE + IDARUBICIN
CYCLOPHOSPHAMIDE + CISPLATIN + ETOPOSIDE + STEROID (DCEP)
CYTARABINE + DAUNORUBICIN
CYTARABINE + DAUNORUBICIN + GEMTUZUMAB
CYTARABINE + DAUNORUBICIN + MIDOSTAURIN
CYTARABINE + FLUDARABINE
CYTARABINE + FLUDARABINE + G-CSF
CYTARABINE + FLUDARABINE + IDARUBICIN + G-CSF
CYTARABINE + IDARUBICIN
CYTARABINE + IDARUBICIN + MIDOSTAURIN
CYTARABINE + MIDOSTAURIN
CYTARABINE + VENETOCLAX
CYTARABINE/DAUNORUBICIN LIPOSOME (VYXEOS)
DECITABINE + SORAFENIB
DOCETAXEL
DOCETAXEL + CARBOPLATIN + TRASTUZUMAB (TCH)
DOCETAXEL + CARBOPLATIN + TRASTUZUMAB + PERTUZUMAB (TCHP)
DOCETAXEL + CISPLATIN
DOCETAXEL + CISPLATIN + FLUOROURACIL (DCF)
DOCETAXEL + CYCLOPHOSPHAMIDE (TC)
DOCETAXEL + CYCLOPHOSPHAMIDE + TRASTUZUMAB
DOCETAXEL + DOXORUBICIN + CYCLOPHOSPHAMIDE (TAC)
DOSE DENSE METHOTREXATE + VINBLASTINE + DOXORUBICIN + CISPLATIN (DD-MVAC)
DOSE-DENSE DOXORUBICIN + CYCLOPHOSPHAMIDE (AC)
DOSE-DENSE DOXORUBICIN + CYCLOPHOSPHAMIDE (AC) FOLLOWED BY Docetaxel
DOSE-DENSE DOXORUBICIN + CYCLOPHOSPHAMIDE (AC) FOLLOWED BY PACLITAXEL
DOSE-DENSE DOXORUBICIN + CYCLOPHOSPHAMIDE (AC) FOLLOWED BY PERTUZUMAB + TRASTUZUMAB + PACLITAXEL
DOXORUBICIN + DACARBAZINE (AD)
DOXORUBICIN + GEMCITABINE + IFOSFAMIDE + MESNA
DOXORUBICIN + IFOSFAMIDE + MESNA (AIM)
DOXORUBICIN + VINBLASTINE + DACARBAZINE (AVD) + BRENTUXIMAB
ETOPOSIDE + IFOSFAMIDE + MESNA + CISPLATIN
ETOPOSIDE + IFOSFAMIDE + MITOXANTRONE

ETOPOSIDE + METHYLPREDNISOLONE + CISPLATIN + CYTARABINE (ESHAP)
ETOPOSIDE + METHYLPREDNISOLONE + CYTARABINE + CISPLATIN (ESHAP)
ETOPOSIDE + METHYLPREDNISOLONE + CYTARABINE + CISPLATIN (ESHAP) + BRENTUXIMAB
ETOPOSIDE + PREDNISONE + VINCRISTINE + CYCLOPHOSPHAMIDE + DOXORUBICIN (DOSE ADJUSTED EPOCH)
ETOPOSIDE + PREDNISONE + VINCRISTINE + CYCLOPHOSPHAMIDE + DOXORUBICIN (EPOCH)
ETOPOSIDE+ CYTARABINE
FOLFOXIRI
FOLFOXIRI + BEVACIZUMAB
FOLFOXIRI + CETUXIMAB
FOLFOXIRI + PANITUMUMAB
GEMCITABINE + CARBOPLATIN + DEXAMETHASONE (GCD)
GEMCITABINE + DOCETAXEL
HIGH DOSE METHOTREXATE + CYTARABINE
HYPER-CVAD ± RITUXIMAB (CYCLOPHOSPHAMIDE + VINCRISTINE + DOXORUBICIN + DEXAMETHASONE): CYCLE A COURSE
HYPER-CVAD ± RITUXIMAB (HIGH DOSE METHOTREXATE/CYTARABINE): CYCLE B COURSE
HYPER-CVAD ± RITUXIMAB + BOSUTINIB (HIGH DOSE METHOTREXATE/CYTARABINE): CYCLE B COURSE
HYPER-CVAD ± RITUXIMAB + BOSUTNIB (CYCLOPHOSPHAMIDE + VINCRISTINE + DOXORUBICIN + DEXAMETHASONE): CYCLE A COURSE
HYPER-CVAD ± RITUXIMAB + DASATINIB (ALTERNATE WITH METHOTREXATE/CYTARABINE): CYCLE B COURSE
HYPER-CVAD ± RITUXIMAB + DASATINIB (CYCLOPHOSPHAMIDE + VINCRISTINE + DOXORUBICIN + DEXAMETHASONE): CYCLE A COURSE
HYPER-CVAD ± RITUXIMAB + IMATINIB (ALTERNATE WITH METHOTREXATE/CYTARABINE): CYCLE B COURSE
HYPER-CVAD ± RITUXIMAB + IMATINIB (CYCLOPHOSPHAMIDE + VINCRISTINE + DOXORUBICIN + DEXAMETHASONE): CYCLE A COURSE
HYPER-CVAD ± RITUXIMAB + NILOTINIB (ALTERNATE WITH METHOTREXATE/CYTARABINE): CYCLE B COURSE
HYPER-CVAD ± RITUXIMAB + NILOTINIB (CYCLOPHOSPHAMIDE + VINCRISTINE + DOXORUBICIN + DEXAMETHASONE): CYCLE A COURSE
HYPER-CVAD ± RITUXIMAB + PONATINIB (ALTERNATE WITH METHOTREXATE/CYTARABINE): CYCLE B COURSE
HYPER-CVAD ± RITUXIMAB + PONATINIB (CYCLOPHOSPHAMIDE + VINCRISTINE + DOXORUBICIN + DEXAMETHASONE): CYCLE A COURSE

IFOSFAMIDE + MESNA + CARBOPLATIN + ETOPOSIDE (ICE)
IFOSFAMIDE + MESNA + CARBOPLATIN + ETOPOSIDE (ICE) + BRENTUXIMAB
IFOSFAMIDE + MESNA + EPIRUBICIN
IFOSFAMIDE + MESNA + ETOPOSIDE + CARBOPLATIN (ICE)
IFOSFAMIDE + MESNA + GEMCITABINE + VINORELBINE (IGEV)
INOTUZUMAB OZOGAMICIN
MESNA + DOXORUBICIN + IFOSFAMIDE + DACARBAZINE (MAID)
MESNA + IFOSFAMIDE + MITOXANTRONE + ETOPOSIDE (MINE)
METHOTREXATE + VINBLASTINE + DOXORUBICIN + CISPLATIN (MVAC)
MIDOSTAURIN
MITOXANTRONE + ETOPOSIDE+ CYTARABINE (MEC)
OXALIPLATIN + IRINOTECAN + LEUCOVORIN + FLUOROURACIL (FOLFIRINOX)
OXALIPLATIN + IRINOTECAN + LEUCOVORIN + FLUOROURACIL (MODIFIED FOLFIRINOX)
PACLITAXEL+ IFOSFAMIDE + MESNA + CISPLATIN
RITUXIMAB + CYCLOPHOSPHAMIDE + DOXORUBICIN + VINCRISTINE + PREDNISONE (R-CHOP)/RITUXIMAB + DHAP
RITUXIMAB + CYCLOPHOSPHAMIDE + VINCRISTINE + DOXORUBICIN + DEXAMETHASONE (MODIFIED HYPERCVAD)
RITUXIMAB + CYCLOPHOSPHAMIDE + VINCRISTINE + DOXORUBICIN + DEXAMETHASONE (R-HYPER-CVAD)
RITUXIMAB + CYCLOPHOSPHAMIDE + VINCRISTINE + DOXORUBICIN + DEXAMETHASONE/METHOTREXATE + CYTARABINE
RITUXIMAB + CYCLOPHOSPHAMIDE + VINCRISTINE + DOXORUBICIN + METHOTREXATE (R-CODOX-M)
RITUXIMAB + DEXAMETHASONE + CYTARABINE + OXALIPLATIN (R-DHAX)
RITUXIMAB + ETOPOSIDE + METHYLPREDNISOLONE + CISPLATIN + CYTARABINE (R-ESHAP)
RITUXIMAB + ETOPOSIDE + METHYLPREDNISOLONE + CYTARABINE + CISPLATIN (R-ESHAP)
RITUXIMAB + ETOPOSIDE + PREDNISONE + VINCRISTINE + CYCLOPHOSPHAMIDE + DOXORUBICIN (DA-R-EPOCH)
RITUXIMAB + ETOPOSIDE + PREDNISONE + VINCRISTINE + CYCLOPHOSPHAMIDE + DOXORUBICIN (R-EPOCH)
RITUXIMAB + GEMCITABINE + CYCLOPHOSPHAMIDE + VINCRISTINE + PREDNISONE (R-GCVP)
RITUXIMAB + GEMCITABINE + DEXAMETHASONE + CISPLATIN (R-GDP)
RITUXIMAB + IFOSFAMIDE + ETOPOSIDE + CYTARABINE (R-IVAC)
RITUXIMAB + IFOSFAMIDE + MESNA + CARBOPLATIN + ETOPOSIDE (R-ICE)
RITUXIMAB + IFOSFAMIDE + MESNA + ETOPOSIDE + CARBOPLATIN (R-ICE)

RITUXIMAB + IFOSFAMIDE + MESNA + GEMCITABINE + VINORELBINE (R-IGEV)
RITUXIMAB + MESNA + IFOSFAMIDE + MITOXANTRONE + ETOPOSIDE (R-MINE)
STEROID + THALIDOMIDE + CISPLATIN + DOXORUBICIN + CYCLOPHOSPHAMIDE + ETOPOSIDE (DT-PACE)
TISAGENLECLEUCEL
TOPOTECAN
TOPOTECAN (IV)
TOPOTECAN (ORAL)
TOPOTECAN + SORAFENIB
TRETINOIN + ARSENIC TRIOXIDE + GEMTUZUMAB
VINCRISTINE + CYCLOPHOSPHAMIDE + PREDNISONE + PROCARBAZINE + ETOPOSIDE + DOXORUBICIN + BLEOMYCIN
VINBLASTINE + IFOSFAMIDE + MESNA + CISPLATIN

Attachment C: MGF indications for febrile neutropenia primary and secondary prophylaxis

Primary Prophylaxis of FN	Secondary Prophylaxis of FN
Definition • Use of a G-CSF to prevent **febrile** neutropenia* in a patient receiving myelosuppressive anti-cancer drugs associated with a clinically significant incidence of febrile neutropenia.	Definition • Per NCCN Guidelines for Management of Neutropenia (growthfactors.pdf (nccn.org)): o Secondary prophylaxis with G-CSFs is recommended **after** a febrile neutropenic or dose-limiting neutropenic event* during prior chemotherapy cycle. • Per ASCO Guidelines (Recommendations for the Use of WBC Growth Factors: American Society of Clinical Oncology Clinical Practice Guideline Update (ascopubs.org)): o Secondary prophylaxis with a CSF is recommended for patients who **experienced** a neutropenic complication from a prior cycle of chemotherapy (for which primary prophylaxis was not received), in which a reduced dose or treatment delay may compromise disease-free or overall survival or treatment outcome. In many clinical situations, dose reduction or delay may be a reasonable alternative.
Additional Definitions • **Febrile Neutropenia:** defined as single temp >/= 38°C and <500 neutrophils/mcL (ANC 0.5) or <1,000 neutrophils/mcL (ANC 1.0) and a predicted decline to <500 over the next 48 hours. • **Dose-Limiting Neutropenic Event:** o Per NCCN: *could be a nadir count or day of treatment count that could otherwise impact planned dose of chemotherapy* o Per AACR: *criteria for defining dose-limiting criteria (hematology)*: ▪ *Grade 3 neutropenia for >7 consecutive days* ▪ *Grade 3 thrombocytopenia for >7 consecutive days* ▪ *Grade 4 thrombocytopenia Febrile neutropenia (ANC, including bands, <1.0 × 10^9/L, fever ≥38.5°C)*	