BC Cancer Agency

Systemic Therapy Update

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Website access at http://www.bccancer.bc.ca/STUpdate/

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IN TOUCH phone list is provided if additional information is needed.

EDITOR'S CHOICE

GLOMERULAR FILTRATION RATE (GFR) – BY RENOGRAM, COCKCROFT-GAULT OR MDRD?

Calculation of the glomerular filtration rate (GFR) is fundamental to determining doses of carboplatin and higher doses of methotrexate. The most accurate way of measuring GFR is by nuclear renogram. However, other methods of reporting GFR are also available if renograms are not feasible or available. Two commonly used methods are the Cockcroft-Gault formula and the recently introduced Modified Diet in Renal Disease study formula.

The **Cockcroft-Gault formula**, which takes patient's age, weight and serum creatinine into account to calculate creatinine clearance (CrCl) has been widely used to estimate GFR.

$$\text{CrCl (GFR) (mL/min)} = \frac{\text{N x (140 – age in years) x wt (kg)}}{\text{Serum creatinine (µmol/L)}}$$

N = 1.04 for females and 1.23 for males

Recently, you may have noted that laboratory reports have started including estimated GFR (eGFR) based on another formula – the abbreviated **Modified Diet in Renal Disease (MDRD) study formula.** The MDRD

formula has been demonstrated to be more accurate than the Cockroft-Gault formula in non-cancer patients with renal impairment. A recent retrospective study undertaken in 96 gynecological patients at BC Cancer Agency also demonstrated that GFR calculated by the MDRD formula was slightly more precise than that estimated by the Cockcroft-Gault formula. However, the precision of both formulae was still poor compared to renograms. In 85% of the patients, calculated carboplatin doses varied by more than 5% from that calculated when renograms were used to measure GFR.

Most BC Cancer Agency protocols containing carboplatin as the primary platinum agent are revised to provide the option of using either CrCl estimated by the Cockroft-Gault formula or eGFR reported by laboratories to calculate carboplatin doses. The same estimate should be used throughout a patient's treatment course (i.e. if lab-reported eGFR was used to calculate the initial carboplatin dose, it should continue to be used for subsequent carboplatin dose calculations).

It should also be emphasized that GFR measured by renogram is *preferred whenever feasible*, especially in patients with co-morbidities such as third-space fluid accumulation, hypoproteinemia, dehydration, or other conditions that could affect renal function.

More information will follow in a later edition outlining the processes that will be used to ensure consistent use of these formulae.

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FOCUS ON OSTEONECROSIS OF THE JAW ASSOCIATED WITH BISPHOPHONATES

Osteonecrosis of the jaw (ONJ) in cancer patients has typically been associated with radiation therapy of the head and neck. However, recent reports have suggested a possible link between ONJ and bisphosphonates. Novartis Pharmaceuticals received 217 reports worldwide of ONJ occurring in cancer patients being treated with their two bisphosphonates – pamidronate (Aredia®) and zoledronic acid (Zometa®). They estimate the incidence of ONJ to be approximately 1 in 10,000 for patients being treated with either drug.(1) ONJ has also been reported with the use of oral bisphosphonates such as alendronate (Fosamax®) and risedronate (Actonel®) being used in non-cancer patients for osteoporosis.(2)

Bisphosphonates decrease bone resorption by inhibiting osteoclasts. Accumulation of aging osteocytes can occur as a result of this decreased bone resorption. As the osteocyte ages, it becomes less effective at maintaining the mineral matrix that surrounds and protects it. The capillary network in the mineral matrix is not maintained, resulting in avascular bone necrosis. Osteonecrosis may occur in the jaw area because this is the only area in which bone is exposed to the external environment. Stresses such as tooth extraction, inflammation, and abscesses cause the need for increased bone turnover. Bisphosphonates prevent the increased bone turnover that is required to deal with the stress.(3) Amongst patients who developed ONJ while no bisphosphonates, most cases occurred after having dental procedures such as tooth extractions. Many also had signs of oral infections.(1) However, ONJ can also occur spontaneously in patients taking bisphosphonates.

Awareness of the possible association between bisphosphonates and ONJ should lead to improved outcomes for patients in the future. Preventative measures can be employed to attempt to reduce future cases of ONJ. These include:

- A dental exam and any necessary dental work should be performed prior to initiating treatment with a bisphosphonate in any patient who has concomitant risk factors. Some of these risk factors include cancer, chemotherapy, radiotherapy of the head and neck, corticosteroids, poor oral hygiene, and infection.(1, 4)
- Invasive dental procedures, such as tooth extractions and implants, should be avoided in patients receiving bisphosphonates whenever possible. It is unknown at this time if discontinuing the bisphosphonate prior to a dental procedure will reduce the risk of ONJ.(1, 5)
- Denture liners should be carefully selected so that they do not contribute to the development of sore spots in the mouth. Selection of liners should be done under close supervision to ensure proper fit and function.

Early diagnosis of ONJ will likely be possible now that health professionals are becoming aware of the possible association between bisphosphonates and ONJ. Early diagnosis has the potential to reduce morbidity by preventing the progression to advanced destructive lesions.(2) To minimize factors that may promote the onset of ONJ, patients should be monitored for:

- signs of oral infections,
- bleeding gums,
- swelling of gums,
- loosening of teeth,
- pain or unusual feelings in the gums or teeth.(6)

Patients should be encouraged to practice good oral hygiene including:

- brushing with a soft toothbrush after every meal,
- gentle once daily flossing,
- avoid alcohol containing mouthwashes,
- keep mouth moist with appropriate measures such as ice chips if dry mouth occurs.(6)

At present, there are no evidence-based guidelines for the management of patients who develop bisphosphonates-associated ONJ. Our recommendation is that the use of bisphosphonates be discontinued at least until tissue closure at involved sites has been achieved. Management is then similar to procedures used for the management of ONJ associated with radiation. This includes the long term use of a low dosage of tetracycline (250 mg once daily) in conjunction with conservative measures to promote local healing.

Pamidronate is a BCCA benefit drug for bone metastases associated with breast cancer and multiple myeloma, as well as licensed for malignant hypercalcemia. Zoledronic acid is not a BCCA benefit drug but is licensed for bony metastases of various solid tumours and multiple myeloma, as well as for malignant hypercalcemia.

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3. Marx RE. Pamidronate (Aredia) and zoledronate (Zometa) induced avascular necrosis of the jaws: a growing epidemic. J Oral Maxillofac Surg 2003;61(9):1115-7.
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CANCER DRUG MANUAL

New Editor for Cancer Drug Manual We are pleased to announce that Dr. Thanh Vu, Provincial Drug Information Specialist, has assumed the Editorship of the BCCA Cancer Drug Manual. Thanh is the current Chair of the Cancer Drug Manual Editorial Board and has contributed greatly to the success of the ongoing process of replacement, revision and production of oncology drug monographs and patient handouts.

We are very grateful to Dr. Mário de Lemos for his stewardship of the Cancer Drug Manual during its evolution from a text-based manual to a web-based resource that is accessed by health care professionals and patients from all over the world. His historical perspective will be invaluable as we continue with further enhancements.

HIGHLIGHTS OF PROTOCOL CHANGES

Carboplatin-based protocol summaries have been revised to include glomerular filtration rate reported by the biochemistry labs as an alternative to the traditional creatinine clearance by Cockcroft-Gault formula (see Editor's Choice article above for more details). This will affect a number of gynecological and genitourinary protocols.

LIST OF NEW AND REVISED PROTOCOLS

The **BC Cancer Agency Protocol Summaries** are revised on a periodic basis. New and revised protocols for this month are listed below. Protocol codes for treatments requiring "Undesignated Indication" approval are prefixed with the letter **U**.

New protocol:

Code	Protocol Name
ULYRITB	Palliative Therapy for Lymphoma using Radioimmunotherapy: Tositumomab-Priming for I^{131} Tositumomab (Bexxar®)

Revised protocols:

Code	Changes	Protocol Name
BRAJACTT	*removed trastuzumab Cycle 9-22, start BRAJTR instead, radiation information, trastuzumab treatment interruptions*	Adjuvant Therapy for Breast Cancer using Doxorubicin and Cyclophosphamide followed by Paclitaxel and Trastuzumab
BRAJGT	*addition of short and long-acting LHRH agonists*	Summary for Adjuvant Therapy for Breast Cancer Using a LHRH Agonist and Tamoxifen
BRAJTR	*labwork clarification, radiation information, treatment interruptions*	Adjuvant Therapy for Breast Cancer using Trastuzumab (Herceptin®) following the Completion of Chemotherapy (Sequential)
BRAVBT	*long acting LHRH agonists added*	Palliative Therapy for Breast Cancer Using a LHRH agonist and Tamoxifen
BRAVTR	*labwork, weight guidelines, treatment interruptions*	Palliative Therapy for Metastatic Breast Cancer using Trastuzumab (Herceptin®)
BRJACTT-G	*remove trastuzumab Cycle 9-22, start BRAJTR instead, radiation information, trastuzumab treatment interruptions*	Adjuvant Therapy for Breast Cancer using Dose Dense Therapy: Doxorubicin and Cyclophosphamide followed by Paclitaxel and Trastuzumab
BRLAACDT	*remove trastuzumab Cycle 9-22, start BRAJTR instead, radiation information, trastuzumab treatment interruptions*	Treatment of Locally Advanced Breast Cancer using Doxorubicin and Cyclophosphamide followed by Docetaxel (Taxotere®) and Trastuzumab
CNTAMCAR	*GFR estimate revised*	Second and third line treatment for recurrent gliomas with carboplatin and high dose tamoxifen
UGICAPIRI	*atropine dose*	Palliative combination chemotherapy for metastatic colorectal cancer using irinotecan and capecitabine in patients unsuitable for GIFOLFIRI
GIEFUP	*creatinine clearance parameter revised and mitomycin chemotherapy cycle options given*	Combined modality therapy for locally advanced esophageal cancer using 5-fluorouracil and cisplatin
GIFOLFIRI	*atropine dose*	Palliative combination chemotherapy for metastatic colorectal cancer using irinotecan, fluorouracil and folinic acid (leucovorin)
GIFUC	*creatinine clearance parameter added, title and eligibility revised*	Palliative chemotherapy for upper gastrointestinal tract cancer (gastric, esophageal, gall bladder carcinoma and cholangiocarcinoma) and metastatic anal cancer using infusional fluorouracil and cisplatin
GIIR	*atropine dose*	First- or second-line palliative chemotherapy for metastatic colorectal cancer using irinotecan
UGIIRFUFA	*atropine dose*	Palliative combination chemotherapy for metastatic colorectal cancer using irinotecan, fluorouracil and folinic acid (leucovorin)
GIIRINALT	*atropine dose*	Second-Line palliative chemotherapy for fluorouracil-refractory metastatic colorectal cancer using irinotecan in high risk patients
GOCXCAD	*GFR estimate revised*	Treatment of advanced/recurrent non-small cell cancer of the cervix with carboplatin and docetaxel in ambulatory care settings
GOCXCAT	*GFR estimate revised*	Primary treatment of advanced/recurrent non-small cell cancer of the cervix with carboplatin and paclitaxel in ambulatory care settings

Code	Changes	Protocol Name
GOENDCAD	*GFR estimate revised*	Treatment of primarily advanced or recurrent endometrial cancer using carboplatin and docetaxel
GOENDCAT	*GFR estimate revised*	Treatment of primarily advanced or recurrent endometrial cancer using carboplatin and paclitaxel
GOOVCADM	*GFR estimate revised*	Primary treatment of invasive epithelial ovarian, fallopian tube and primary peritoneal cancer, with no visible residual tumour (moderate-high risk) using carboplatin and docetaxel
GOOVCADR	*GFR estimate revised*	Second line treatment using docetaxel and carboplatin for epithelial ovarian cancer relapsing after primary treatment
GOOVCADX	*GFR estimate revised*	Primary treatment of visible residual (extreme risk) invasive epithelial ovarian cancer using carboplatin and docetaxel
GOOVCAG	*GFR estimate revised*	Treatment of advanced ovarian cancer in patients who have progressed or recurred following first-line platinum-based treatment using carboplatin and gemcitabine
GOOVCARB	*GFR estimate revised*	First or second line therapy for invasive epithelial ovarian cancer using single-agent carboplatin
GOOVCATM	*GFR estimate revised*	Primary treatment of invasive epithelial ovarian, fallopian tube and primary peritoneal cancer, with no visible residual tumour (moderate-high risk) using carboplatin and paclitaxel
GOOVCATR	*GFR estimate revised*	Second line treatment using paclitaxel and carboplatin for epithelial ovarian cancer relapsing after primary treatment
GOOVCATX	*GFR estimate revised*	Primary treatment of visible residual (extreme risk) invasive epithelial ovarian cancer in ambulatory care settings using paclitaxel and carboplatin
GOSMCC2	*GFR estimate revised*	Treatment of small cell carcinoma of cervix using paclitaxel, cisplatin, etoposide and carboplatin with radiation
GUAVPG	*GFR estimate revised*	Palliative therapy for urothelial carcinoma using cisplatin and gemcitabine
GUBCV	*GFR estimate revised*	Therapy for transitional cell cancers using carboplatin-vinblastine
GUSCARB	*GFR estimate revised*	Adjuvant therapy for stage I high risk seminoma using carboplatin
GUSCPE	*GFR estimate revised*	Therapy of genitourinary small cell tumors with a platin and etoposide
HNRAMI	*requirement for Special Access Programme deleted, IV push administration revised*	Radioprotection in head and neck radiation using amifostine
LYABVD	*use of non-PVC equipment added*	Treatment of Hodgkin's disease with doxorubicin, bleomycin, vinblastine, and dacarbazine
LYCHOP	*use of non-PVC equipment added*	Treatment of lymphoma with doxorubicin, cyclophosphamide, vincristine and prednisone (CHOP)
LYCHOPR	*use of non-PVC equipment added*	Treatment of lymphoma with doxorubicin, cyclophosphamide, vincristine, prednisone and rituximab (CHOP-R)
LYCVPPABO	*use of non-PVC equipment added*	Treatment of Hodgkin's disease with cyclophosphamide, vinblastine, procarbazine and prednisone
LYCVPR	*use of non-PVC equipment added*	Treatment of advanced indolent lymphoma using cyclophosphamide, vincristine, prednisone and rituximab (CVP-R)
LYFLUDR	*prolymphocytic leukemia added to Title and Indication*	Treatment of chronic lymphocytic leukemia or prolymphocytic leukemia with fludarabine and rituximab
UMYBORTEZ	*baseline liver function and platelet counts precaution added*	Treatment of multiple myeloma with bortezomib
MYHDC	*revised dose of cyclophosphamide, revised filgrastim dose and duration*	Single dose cyclophosphamide priming therapy for multiple myeloma prior to autologous stem cell transplant (Leukemia/BMT Program of BC- BCCA)

LIST OF NEW AND REVISED PRE-PRINTED ORDERS

The **INDEX to BC Cancer Agency Pre-printed Orders** are revised on a periodic basis. The revised pre-printed orders for this month are listed below.

All pre-printed orders involving oral antineoplastic agents have "**PO**" added after the protocol codes. In addition, most pre-printed orders have the following statement added: "*Proceed with treatment based on blood work from _____(date)____*". This is to help draw to the attention of the health unit clerks that they need to process the order as soon as possible. This is in contrast to orders involving intravenous chemotherapy when the patients return the next day for their treatment.

New pre-printed orders:

BRAVGEMT	Palliative Therapy for Metastatic Breast Cancer using Gemcitabine and Paclitaxel

Revised pre-printed orders:

BRAJACTT	*removed trastuzumab Cycle 9-22, start BRAJTR instead, radiation information, trastuzumab treatment interruptions*	Adjuvant Therapy for Breast Cancer using Doxorubicin and Cyclophosphamide followed by Paclitaxel and Trastuzumab
BRAJANAS(PO)	*(PO) added to name for oral chemo*	Adjuvant anastrozole for breast cancer
BRAJEXE(PO)	*(PO) added to name for oral chemo*	Adjuvant exemestane for breast cancer
BRAJGT(PO)	*addition of short and long-acting LHRH agonists*	Summary for Adjuvant Therapy for Breast Cancer Using a LHRH Agonist and Tamoxifen
BRAJLET(PO)	*(PO) added to name for oral chemo*	Adjuvant letrozole for breast cancer
BRAJTAM(PO)	*(PO) added to name for oral chemo*	Adjuvant Therapy for Breast Cancer using Tamoxifen
BRAJTR	*labwork clarification, radiation information, treatment interruptions*	Adjuvant Therapy for Breast Cancer using Trastuzumab (Herceptin®) following the Completion of Chemotherapy (Sequential)
BRAVANAS(PO)	*(PO) added to name for oral chemo*	Palliative therapy for breast cancer using Anastrozole (Arimidex®)
BRAVBT(PO)	*long acting LHRH agonists added; (PO) added to name for clarity*	Palliative Therapy for Breast Cancer Using a LHRH agonist and Tamoxifen
BRAVLCOD(PO)	*(PO) added to name for oral chemo*	Therapy for therapy of bone metastases in breast cancer using Oral Clodronate (Class II)
BRAVEXE(PO)	*(PO) added to name for oral chemo*	Palliative Therapy for Advanced Breast Cancer Using Exemestane (Aromasin®)
BRAVLET(PO)	*(PO) added to name for oral chemo*	Palliative therapy for advanced breast cancer using Letrozole (Femara®)
BRAVTR	*labwork, weight guidelines, treatment interruptions*	Palliative Therapy for Metastatic Breast Cancer using Trastuzumab (Herceptin®)
BRJACTT-G	*remove trastuzumab Cycle 9-22, start BRAJTR instead, radiation information, trastuzumab treatment interruptions*	Adjuvant Therapy for Breast Cancer using Dose Dense Therapy: Doxorubicin and Cyclophosphamide followed by Paclitaxel and Trastuzumab
BRLAACDT	*remove trastuzumab Cycle 9-22, start BRAJTR instead, radiation information, trastuzumab treatment interruptions*	Treatment of Locally Advanced Breast Cancer using Doxorubicin and Cyclophosphamide followed by Docetaxel (Taxotere®) and Trastuzumab
CNAJTMZ	*bloodwork parameter corrected and return appointments clarified*	Concomitant and adjuvant temozolomide for newly diagnosed malignant gliomas
CNB(PO)	*(PO) added to name for oral chemo*	Therapy for Prolactinomas using Bromocriptine
CNCAB(PO)	*(PO) added to name for oral chemo*	Second Line Suppressive Therapy for Prolactinomas using Cabergoline
CNCARV	*lab tests and values to proceed treatment clarified, non-PVC equipment added*	Carboplatin and etoposide in the treatment of recurrent ependymoma
CNCCNU	*lab values to proceed treatment clarified*	Lomustine (CCNU) for treatment of recurrent malignant brain tumors
CNMODPCV	*lab values to proceed treatment clarified, dosing of procarbazine and vincristine clarified, reference to diet sheet added*	Modified PCV chemotherapy of brain tumours using procarbazine, lomustine (CCNU) and vincristine
CNPROC	*procarbazine dosing clarified, reference to diet sheet added*	Standard procarbazine for second-line treatment of recurrent brain tumor
CNTAM	*tamoxifen dosing clarified*	Tamoxifen for patients with recurrent brain tumors which are resistant to first line chemotherapy
CNTAMCAR	*carboplatin infusion and tamoxifen dosing clarified*	Carboplatin and high dose tamoxifen 2nd or 3rd line treatment for recurrent gliomas
CNTEMOZ	*lab values to proceed treatment clarified*	Therapy for malignant brain tumours using temozolomide
GIAJCAP(PO)	*(PO) added to name for oral chemo*	Adjuvant Therapy of Colon Cancer using Capecitabine
GIAVCAP(PO)	*(PO) added to name for oral chemo*	Palliative Therapy of Advanced Colorectal Cancer using Capecitabine

UGICAPIRI	*atropine dose*	Palliative combination chemotherapy for metastatic colorectal cancer using irinotecan and capecitabine in patients unsuitable for GIFOLFIRI
GIFOLFIRI	*atropine dose*	Palliative combination chemotherapy for metastatic colorectal cancer using irinotecan, fluorouracil and folinic acid (leucovorin)
GIIR	*atropine dose*	First- or second-line palliative chemotherapy for metastatic colorectal cancer using irinotecan
UGIIRFUFA	*atropine dose*	Palliative combination chemotherapy for metastatic colorectal cancer using irinotecan, fluorouracil and folinic acid (leucovorin)
GIIRINALT	*atropine dose*	Second-Line palliative chemotherapy for fluorouracil-refractory metastatic colorectal cancer using irinotecan in high risk patients
GOCXCAD	*lab orders section modified; use of non-PVC bags and tubing with or without filters was specified*	Treatment of Advanced/Recurrent Non-Small Cell Cancer of the Cervix with Carboplatin and Docetaxel in Ambulatory Care Settings
GOCXCAT	*lab orders section modified; use of non-PVC bags and tubing with or without filters was specified*	Primary Treatment of Advanced/Recurrent Non-Small Cell Cancer of the Cervix with Carboplatin and Paclitaxel in Ambulatory Care Settings
GOENDCAD	*lab orders section modified; use of non-PVC bags and tubing with or without filters was specified*	Treatment of Primarily Advanced or Recurrent Endometrial Cancer using Carboplatin and Docetaxel
GOENDCAT	*lab orders section modified; use of non-PVC bags and tubing with or without filters was specified*	Treatment of primarily advanced or recurrent endometrial cancer using Carboplatin and Paclitaxel (GO 95 01)
GOOVCADM	*lab orders section modified; use of non-PVC bags and tubing with or without filters was specified*	Primary Treatment of Invasive Epithelial Ovarian, Fallopian Tube and Primary Peritoneal Cancer, with no Visible Residual Tumour (Moderate-High Risk) Using Carboplatin and Docetaxel
GOOVCADR	*lab orders section modified; use of non-PVC bags and tubing with or without filters was specified*	Second Line Treatment Using Docetaxel and Carboplatin for Epithelial Ovarian Cancer Relapsing after Primary Treatment
GOOVCADX	*lab orders section modified; use of non-PVC bags and tubing with or without filters was specified*	Primary Treatment of Visible Residual (Extreme Risk) Invasive Epithelial Ovarian Cancer Using Carboplatin and Docetaxel
GOOVCARB	*lab orders section modified*	First or Second Line Therapy for Invasive Epithelial Ovarian Cancer using Single-Agent Carboplatin
GOOVCATM	*lab orders section modified; use of non-PVC bags and tubing with or without filters was specified*	Primary treatment of invasive epithelial ovarian, fallopian tube and primary peritoneal cancer, with no visible residual tumour (moderate-high risk) using Carboplatin and Paclitaxel
GOOVCATR	*lab orders section modified; use of non-PVC bags and tubing with or without filters was specified*	Second line treatment using paclitaxel and carboplatin for epithelial ovarian cancer relapsing after primary treatment
GOOVCATX	*lab orders section modified; use of non-PVC bags and tubing with or without filters was specified*	Primary treatment of visible residual (extreme risk) invasive epithelial ovarian cancer in ambulatory care settings using Paclitaxel and Carboplatin
GUEMCYT(PO)	*(PO) added to name for oral chemo*	Therapy for androgen-independent prostate cancer using estramustine phosphate
GUKIFN	*dosing clarified*	Alpha-interferon (a-IFN) for advanced renal cell carcinoma
GUPNSAA(PO)	*(PO) added to name for oral chemo*	Non-steroidal treatment of prostate cancer using Flutamide and Nilutamide
HNRAMI	*requirement for Special Access Programme deleted, IV push administration clarified*	Radioprotection in head and neck radiation using amifostine
ULUAVERL(PO)	*(PO) added to name for oral chemo*	Treatment of Advanced Non-Small Cell Lung Cancer (NSCLC) with Erlotinib (Tarceva®)
ULUGEF(PO)	*(PO) added to name for oral chemo*	Third-Line Treatment for Advanced Non-Small Cell Lung Cancer (NSCLC) with Gefitinib (Iressa®)
LUPOE(PO)	*(PO) added to name for oral chemo*	Therapy for small cell lung cancer using Oral Etoposide (Standard)
LYABVD	*use of non-PVC equipment added*	Treatment of Hodgkin's disease with doxorubicin, bleomycin, vinblastine, and dacarbazine

LYCHLOR(PO)	*(PO) added to name for oral chemo*	Therapy for Low Grade Lymphoma and Chronic Lymphocytic Leukemia Using Chlorambucil
LYCHOP	*use of non-PVC equipment added*	Treatment of lymphoma with doxorubicin, cyclophosphamide, vincristine and prednisone (CHOP)
LYCHOPR	*use of non-PVC equipment added*	Treatment of lymphoma with doxorubicin, cyclophosphamide, vincristine, prednisone and rituximab (CHOP-R)
LYCSPA(PO)	*(PO) added to name for oral chemo*	Cyclosporine for cytopenias associated with lymphoproliferative disorder of large granular lymphocytes
LYCVPPABO	*use of non-PVC equipment added*	Treatment of Hodgkin's disease with cyclophosphamide, vinblastine, procarbazine and prednisone
LYCVPR	*use of non-PVC equipment added*	Treatment of advanced indolent lymphoma using cyclophosphamide, vincristine, prednisone and rituximab (CVP-R)
LYFLUDR	*prolymphocytic leukemia added to Title and Indication*	Treatment of chronic lymphocytic leukemia or prolymphocytic leukemia with fludarabine and rituximab
ULYMFBEX(PO)	*(PO) added to name for oral chemo*	Treatment for refractory cutaneous T-cell lymphoma using Bexarotene (Targetin®) (Note: approval from the Health Canada Special Access Programme required)
UMYBORTEZ	*baseline liver function and platelet counts precaution added*	Treatment of multiple myeloma with Bortezomib
MYHDC	*revised dose of cyclophosphamide, revised filgrastim dose and duration*	Single dose cyclophosphamide priming therapy for multiple myeloma prior to autologous stem cell transplant (Leukemia/BMT Program of BC-BCCA)
MYMP(PO)	*(PO) added to name for oral chemo*	Treatment of Multiple Myeloma Using Melphalan and Prednisone
MYTHALID(PO)	*(PO) added to name for oral chemo*	Summary for Therapy of Multiple Myeloma Using Thalidomide
SAAVGI(PO)	*(PO) added to name for oral chemo*	Treatment of advanced c-kit positive gastrointestinal stromal cell tumors (GIST's) using imatinib (Gleevec®)
SAIME	*addition of creatinine clearance parameters; clarification of lab tests prior to treatment*	Etoposide, ifosfamide-mesna for patients with newly diagnosed Ewing's sarcoma/peripheral neuroectodermal tumor (PNET) or rhabdomyosarcoma or advanced soft tissue or bony sarcomas
SMAJIFN(PO)	*(PO) added to name for oral chemo*	Adjuvant Therapy of High Risk Malignant Melanoma with High Dose Interferon (HDIFN) α-2b
SMCCNU(PO)	*(PO) added to name for oral chemo*	Second line treatment for metastatic malignant melanoma using Lomustine (CCNU)

CONTINUING EDUCATION

- **3-5 November 2005**: BCCA Annual Cancer Conference, Westin Bayshore 1601 Bayshore Drive, Vancouver, BC (www.bccancer.bc.ca/HPI/AnnualConference/default.htm) – registration and poster submission now open

- **Upcoming Chemotherapy Certification courses**
  - November 28 & 29th (full)
  - January 30th & 31st, 2006
  - April 3rd & 4th, 2006
  - June 5th & 6th, 2006
  - October 2nd & 3rd, 2006
  - December 4th & 5th, 2006

  Please follow this link for detailed course information and application forms:
  http://www.bccancer.bc.ca/HPI/Nursing/Education/BCCA/ChemoEd/Cert/default.htm

- **"Introduction of Novel Targeted Therapies. A Case of the Optimization of the Nurse's Role**: This free, one-hour educational session will be broadcast on the following dates:
  - Tues, Nov 1 - 1015 PST
  - Wed, Nov 2 - 1015 PST
  - Fri, Nov 4 - 0915 PST

  You will need a phone to participate in this session. Please follow this link to register on-line:
  http://reservations.ince.com/reservations/allprograms.asp

WEBSITE RESOURCES

The followings are available on the BC Cancer Agency website (www.bccancer.bc.ca) under the Health Professionals Info section:

Reimbursement and Forms: Benefit Drug List, Class II, Undesignated Indication	www.bccancer.bc.ca/HPI/ChemotherapyProtocols/Forms
Cancer Drug Manual:	www.bccancer.bc.ca/cdm
Cancer Management Guidelines:	www.bccancer.bc.ca/CaMgmtGuidelines
Cancer Chemotherapy Protocols:	www.bccancer.bc.ca/ChemoProtocols
Cancer Chemotherapy Pre-Printed Orders:	www.bccancer.bc.ca/ChemoProtocols under the index page of each tumour site
Systemic Therapy Program Policies:	www.bccancer.bc.ca/HPI/ChemotherapyProtocols/Policies
Unconventional Cancer Therapies Manual:	under Patient/Public Info, Unconventional Therapies

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