Looking beyond the obvious takes time, energy, insight, and fortitude; yet this is what we are called to do. We are nurses—tireless care providers. Yet, when the subject of the liver’s enzyme system, also called the cytochrome P450 system, is discussed, we feel the urge to run the other way...or better yet, to just ignore the conversation. Yet, can we do this as the tireless care provider? The answer to this question is clear and simple: no, we cannot. This is because numerous medications, nutrients, and herbal therapies are metabolized through the Cytochrome P450 enzyme system. This system can be inhibited or induced by drugs, and once altered can be clinically significant in the formulation of drug-drug interactions that may cause unanticipated adverse reactions or therapeutic failures. This article will review the basic concepts of the P450 system and relate these concepts to clinically significant altered responses.

The Cytochrome P450 (CYP450) enzymes are essential for the production of numerous agents including cholesterol and steroids. Additionally, these enzymes are necessary for the detoxification of foreign chemicals and the metabolism of drugs. CYP450 enzymes are so named because they are bound to membranes within a cell (cyto) and contain a heme pigment (chrome and P) that absorbs light at a wavelength of 450 nm when exposed to carbon monoxide (Lynch and Price, 2007). There are more than 50 CYP450 enzymes, but the CYP1A2, CYP2C19, CYP2D6, CYP1A2, CYP3A4, and CYP3A5 enzymes are responsible for metabolizing 45% of drug metabolism. The CYP2D6 (20%-30%), the CYP2C9 (10%) and the CYP2E1 and CYP1A2 (5%) complete this enzyme system (Arcangelo and Peterson, 2006).

Drugs that cause CYP450 drug interactions are referred to as either inhibitors or inducers. An inducing agent can increase the rate of another drug’s metabolism by as much as two to threefold which develops over a period of a week. When an inducing agent is prescribed with another medication, the dosage of the other medication may need to be adjusted since the rate of metabolism is increased and the effect of the medication reduced. This can lead to a therapeutic failure of the medication. Conversely, if a medication is taken with an agent that inhibits it metabolism, then the medication drug level can rise and possibly result in a harmful or adverse effect. Information regarding a drug’s CYP450 metabolism and its potential for inhibition or induction can be found on the drug label and accessed through the U.S. Food and Drug Administration (FDA) or manufacturer’s Web sites (Lynch and Price, 2007).

When we assess our patients and provide management modalities, these are implemented within a framework of the patient’s heritage, race, and culture. This is also true in pharmacology as well i.e., “pharmacogenetics”. This concept is important to examine since we know that there exists genetic variability, which may influence a patient’s response to commonly prescribed drug classes. This genetic variability can be defined as polymorphism. One out of every 15 Caucasians or African Americans may have an exaggerated response to standard doses of beta blockers, such as metoprolol (Lopressor) or no response to the analgesic tramadol (Ultram). This is because the drug metabolism via CYP450 enzymes exhibits genetic variability. Seven percent of Caucasians and two to seven percent of African Americans are poor metabolizers of drugs dependent on CYP2D6, which metabolizes many beta blockers, antidepressants, and opioids (Lynch and Price, 2007).

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Medicare Care
Uninsured and in need of assistance with medical bills, contact the local Social Security office at 800-772-1213 to determine eligibility for Supplemental Security Income (SSI) or Social Security Disability insurance (SSDI). The web page of the U.S. Department of Health and Human Services’ Bureau of Primary Health Care has information on public programs for the uninsured http://bphc.hrsa.gov or call 888-275-4772.

Prescription Drugs
Most major pharmaceutical companies have patient assistance programs. To obtain guidelines and a listing of participating companies, call the Pharmaceutical Manufacturers’ Association at 800-762-4636 or www.phrma.org. The Partnership for Prescription Assistance offers a single point of access to more than 475 assistance programs. Patients can call 888-477-2669 or visit the user-friendly website at www.pparx.org.

You can also access the Medicare Rights Center at 212-869-3850 or www.medicarerights.org to locate prescription assistance or discount programs. Visit www.medicare.gov or call 800-MEDICARE to see if you qualify.

Utilities
Assistance programs are offered by many gas, electric, water, and phone companies. Many states have regulations that prohibit companies from turning off utilities; the doctor or social worker may need to write letters describing why the service(s) are medically necessary. In an emergency situation, check with local help lines and social service agencies as some provide one-time emergency help with utility bills.

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Insurance is a wonderful thing and most of us really do not pay attention to it unless we actually need it. All of a sudden we may be confronted with co-pays or other bills for treatment that we did not realize were not part of our insurance plan.

I never thought about it until one of my patients received a bill for one of his MRI’s (magnetic resonance imaging). After investigation, we discovered that he was only allowed three out patient MRI’s per year with his contract. Three MRI’s per year was not adequate for his treatment plan which required a MRI every two cycles of chemotherapy. This is the standard of care for patients receiving brain tumor therapy. He would be responsible for paying for three MRIs per year. This would be a hardship for him, since he had not worked since being diagnosed and he was on a disability.

Interestingly enough I received a newsletter from the American Brain Tumor Association and there was a section on financial assistance programs. I never knew that so many existed, so I thought I would pass this information along to you.

Many oncology nurses have a story as to why they became a nurse. Anne Marie Campbell is one such nurse. In 1983, when Anne Marie was just 9 years old, she was diagnosed with Acute Lymphocytic Leukemia. She received her care at Children’s Hospital of Michigan. At this time, 24 years later, Anne Marie is “giving back” to oncology patients just as her nurses at Children’s Hospital did for her.

Anne Marie received a BSN in 1997 from St. Mary’s College in Notre Dame, Indiana. She has spent her entire nursing career in the field of Bone Marrow Transplant. In 2001, she received her OCN certification. She was a Staff Nurse on the BMT unit at Karmanos from 1997 until 2005. She served as a preceptor on that unit and was a member of a variety of committee’s hospital wide. She was recognized as the Karmanos Nurse of the Year in 2004. In 2005, she became a BMT coordinator, and continues this job to date.

Anne Marie presented a poster at the Great Lakes Cancer Nursing Conference in 2001 on Epstein Barr Virus post BMT with Rabbit Anti-thymocyte Globulin. She also created flash cards for new nurses on the BMT unit a couple of years ago, and these flash cards are still used as part of the orientation.

Anne Marie has been a member of ONS for more than 5 years. She is currently on the ballot for secretary and has been the BMT/Heme PENG chair for the past few years. She became a member of MDONS because it was encouraged by management on the BMT unit. She was asked to run for secretary this year by a friend, and accepted the nomination. As a joke, when asked to run, she said, “Only if it will relieve me of my PENG duties.”

Outside of Karmanos and MDONS, Anne Marie likes to spend time with her family and friends. She was born and raised in Grosse Pointe Park and now lives in Livonia. Her parents and a brother still reside in Grosse Pointe Park. Anne Marie is the oldest of four Campbell children. Anne Marie is an avid Notre Dame Football fan (even this year, despite all of the losses) and loves the Detroit Red Wings.

She became a member of MDONS because it was encouraged by management on the BMT unit.

The next time you see Anne Marie, thank her for her contributions to MDONS and oncology nursing, and congratulate her on being a 24 year cancer survivor.

Submitted by Lisa Zajac MSN, APRN-BC, OCN®
Meeting Summaries

August

Multiple Myeloma Update: Nursing Implications for Better Patient Management

Presented by Beth Faiman, RN, MSN, CNP, AOCN
Summarized by Lisa Zajac MSN, APRN-BC, OCN

The combination of a great speaker and a wonderful dinner made for a grand learning experience for the August meeting.

The focus of the meeting was on multiple myeloma and its treatments. The speaker, Beth Faiman, RN, MSN, CNP, AOCN from the Cleveland Clinic was very energetic, which assisted in keeping everyone's attention. She was a fantastic speaker and was very knowledgeable about multiple myeloma.

From symptom management, she went on to discuss the current medications available that treat the disease itself.

The presentation began with Beth defining multiple myeloma, speaking of its prevalence rates, and its survival rates. She then went over the pathophysiology of the disease and diagnostic criteria. She reviewed the signs and symptoms and current treatment options available for the management of these issues. Pain, hypercalcemia, and fatigue were just a few that she spoke about at the meeting.

From symptom management, she went on to discuss the current medications available that treat the disease itself. She spoke about thalidomide, lenalidomide, and bortezomib. She was also able to pronounce them all which are a challenge in itself! After discussing doses and dosing regimens, she went on to discuss controlling the side effects of these medications such as peripheral neuropathy and hypercoagulable complications. In addition to these, she also discussed treatment of the sedative effects of the treatments as well as controlling the rashes patients may develop when taking some of these medications.

The presentation ended with a case study as well as a question and answer session. MDONS members shared their patient experiences with these medications, and how their institutions combat the side effects. In all, it was a wonderful evening with an excellent speaker.

September

Oncology Nurse Management of Epidermal Growth Factor Receptor Inhibitors

Presented by Joan Westendorp, RN, MSN, OCN, CCRA, Director Research Education and Community Outreach West Michigan Cancer Center
Submitted by Rita Dundon, RN, MSN

In normal tissue, epidermal growth factor receptors (EGFR) are found in many cell types but mainly in epithelial cells. EGFRs occur in 50% of epithelial tumor cells. Over expression of EGFR is found in colon, breast and non-small cell lung cancer tumors. Epidermal growth factor receptors are critical in signal transduction pathways, including the Ras / Mitogen activated pathway. EGFR mutations cause signaling pathways to become continuously activated. Hyper-activation of EGFR signaling can cause over expression of the receptor or over production of epidermal growth factor and transforming growth factor. Hyper-activation affects key cellular functions including cell survival, metastasis, proliferation, blood supply, and cell death.

There are several EGFR inhibitors in use in clinical practice and several more currently undergoing clinical trials. Cetuximab, a chimeric IgG1 monoclonal antibody which binds to human EGFR, is used in metastatic colon cancer in combination with Irinotecan. Panitumumab, a fully human IgG2 monoclonal antibody that binds to human EGFR, is used in colorectal cancer. Eriotinib, a tyrosine kinase inhibitor, is approved for treatment of non-small cell lung and pancreatic cancer. Geginib, another tyrosine kinase inhibitor, is used for non-small cell lung cancer. Lapatinib, also a tyrosine kinase inhibitor, is used in metastatic breast cancer.

Side effects of EGFR inhibitors include dermatological toxicities, electrolyte abnormalities, infusion reactions, interstitial lung disease and gastrointestinal problems.

Rash: The most common side effect. It is seen in 60 to 80% of patients. The rash is categorized into 5 phases.

Phase 1. Skin tenderness and flushing is seen soon after the start of treatment. Nurses should educate patients to avoid the sun and suggest head and shoulder shampoo and lidocaine cream.

Phase 2. Characterized by a papulopustular rash, which occurs in 7 to 10 days. This phase is treated with hydrocortisone, tetracycline and anti pruritic medication.

Phase 3. Crusting of lesions occurs usually about 1 month after starting treatment. Moisturizers are recommended.

Phase 4. Characterized by dry and itching skin with telangectasia

Phase 5. Is characterized by abnormal hair growth and paronychia (abnormal growth of eyelashes), edema, inflammation and eye complications. Patients with signs of infection and eye complications need dermatology and or ophthalmic consults.

Electrolyte imbalance: Hypomagnesium and hypocalcemia can occur with EGFR inhibitor treatment. Fifty percent of patients treated with Cetuximab develop hypomagnesemia. Electrolytes and magnesium should be monitored for eight weeks after treatment with calcium and magnesium being replaced as needed. Patients who are taking oral magnesium should be monitored for problems with diarrhea.

Interstitial Lung Disease (ILD): ILD is a rare but very serious complication of EGFR inhibitors. Risk factors include Japanese ethnicity, male sex, smoking, and history of pulmonary fibrosis. ILD is diagnosed with high resolution CT scan and surgical biopsy. It is treated with steroids, O2, antibiotics, and bronchodilators.

Continued on following page
Cardiotoxicity: A decrease in left ventricular ejection fraction (LVEF) has been reported with use of Lapatinib in the treatment of metastatic breast cancer. LVEF should be evaluated prior to treatment and continued during treatment.

Infusion Reaction: Clinical trials have demonstrated a 3% infusion reaction rate for Cetuximab and a 1% rate for Panitumumab. Anaphylaxis is characterized by wheezing, bronchospasm, hypotension, itchy rash, GI symptoms and cardiac abnormalities. Treatment of infusion reaction includes epinephrine, corticosteroids, antihistamines, bronchodilators, and O2.

Diarrhea: More common in patients receiving oral tyrosine kinase inhibitors such as Erlotinib and Gefitinib because EGFR is in the intestinal mucosa. Nurses should assess for diarrhea and recommend loperamide, increase fluid and good perianal care.

Ocular toxicities: Are rare but include periorbital rash, ectropion and blepharitis. Nurses can suggest warm compresses and topical antibiotics are helpful. Severe problems should be referred to Ophthalmology.

Nausea and Vomiting: Most monoclonal antibodies are well tolerated with an emetogenic rate of less than 10 percent. If nausea occurs prochlorperazine or metoclopramide are effective.

Liver Function Abnormalities: Are asymptomatic. Therefore, liver transaminase, bilirubin, and alkaline phosphatase should be monitored before and during treatment.

The nurse's knowledge about epidermal growth factor inhibitors is very important so that the nurse can give patients the information they need to report toxicities early. Early identification of side effects can prevent progression and improve outcomes.

October
Management of Cancer Pain

Presented by Dr. Michael Stellini, MD
Summarized by Mary Wilson, BSN, RN, OCN

The October chapter meeting featured Dr. Michael Stellini speaking on the multi-focal aspects of cancer pain management. Dr. Stellini is actively involved in teaching this topic to the residents at Wayne State University, and practices what he preaches via the Palliative Care program at the DMC. His role in that program is as one of the medical directors of the Karmanos Cancer Institute Hospice.

Conducting a thorough pain assessment requires being aware of the need to differentiate between acute, chronic non-malignant and chronic malignant pain. The assessment should also include the physical, psychological, and spiritual components of pain.

The first step in assessing pain is by taking a history or a patient report. The 1 - 10 scale is good for intra-patient assessments but the patient should be included in what is an acceptable level. Some patients may decide a “5” is fine, but others may find that intolerable. Non-verbal patients can be assessed using several widely available tools such as the FLACC or PABS scales. Restlessness and agitation should be evaluated as possible signs of pain. Even patients who seem to be sleeping comfortably may awaken and immediately report high pain levels. They may have been sleeping due to exhaustion from high levels of unrelenting pain

Pain levels must be regularly assessed to determine if the current interventions are effective. If a breakthrough pain medication does not provide relief within an hour, it will not provide relief in 2 - 3 hours, so the pain medications need to be adjusted accordingly then, rather than wait until the next dose is due.

There are three main types of pain. Somatic is dull or aching, well localized, and usually indicates bone pain, muscle strains, etc. Visceral pain may be dull, sharp, or colicky. It can be localized or referred, and is seen with such diagnosis as gastritis or gallstones. Neuropathic pain is usually described as burning or numbness and can be associated with spinal, disc, or diabetes involvement.

Pain can also be classified by its duration. Acute pain arises from an identified event and resolves in days to weeks. Chronic pain may be multi factorial and the cause not easily identified. It is of indeterminate duration and may be noicceptive and / or neuropathic.

Pain can arise from a number of different pathways. Noicceptive pain results from direct stimulation of intact nociceptors, is transmitted along normal nerve pathways, and may be sharp, aching, or throbbing. With noicceptive pain, tissue injury is apparent. Somatic pain, caused by the activation of pain receptors in either the cutaneous or deep tissues, is easy to describe and is localized. Visceral pain may be difficult to describe and more general. Neuropathic pain can arise from disordered peripheral or central nerves. It may be caused by compression, transection, infiltration, ischemia, or metabolic injury to the nerves. The pain may exceed any observable injury, and can be classified as burning, tingling, shooting, stabbing, or electrical.

Pain management should not be delayed to investigate the causes or for disease treatment. Unmanaged pain can lead to nervous system changes and possibly permanent damage.

Most health care personnel are by now familiar with the WHO Analgesic Ladder for Pain Management. The essence of the analgesic ladder is to start treatment with a non-opioid +/- adjuvant. The next step is to progress to a low-dose opioid +/- non-opioid +/- adjuvant. The subsequent step would be increasing the doses of opioids along with continuing the non-opioids and adjuvants until freedom from pain is achieved.

In choosing non-opioid analgesics drugs of choice would include acetaminophen, ASA, NSAIDS, COX-2 inhibitors, Ultrim, Lidoderm and Capscadian. Adjuvant analgesics would include anti-depressants, anti-convulsants, corticosteroids, and nerve blocks. Non-pharmacological treatments may also be added to the treatment plan. These interventions would include physical therapy, heat/ cold, acupuncture, relaxation/ biofeedback, counseling, and TENS.

Opioids are main stays in the treatment of pain for cancer patients.
Halloween is over and the squirrels have left a gaping hole in the pumpkin on the front porch. Thanksgiving is only a couple of weeks away and I am overdue in parceling out the menu to the relatives who cook. Christmas is already here if the stores are your measure. Wow, where did 2007 go? If you are anything like myself you sit in shock of how time can fly by so quickly.

Looking back over the last year we had a wonderful conference in February. You remember, it snowed like crazy and we wondered if anyone would make it. The speakers were great. The camaraderie was even better. The visual of the judge with the microphone clip dangling between her legs is still a source of merriment. I spoke last week to a group of nurses and I debated where to place that clip so as not to repeat her rather embarrassing performance.

Spring brought ONS Congress in Las Vegas. It was awesome! I get really excited when I see nurses do great things. We can make a difference. If you have never gone to congress make it a priority this next year. It is a “real shot in the arm” to be there (aka away from home) amongst people who really do understand your challenges.

The monthly programs have been great. Not only a time for learning but a time for networking. Particular programs stand out for me like the President’s dinner meeting at Gilda’s in May. The meaning of a “good” death to families and healthcare delivery teams was very moving and thought provoking.

I am grateful to have my health and creative drive back. Having the rug pulled out from underneath me, healthwise, was a real learning experience not to mention a wake up call for some overdue lifestyle changes. I’m not 39 years old anymore; I must change my approach. Change is soooooo hard!

I sincerely hope that this next year brings new opportunities for your personal growth intellectually, emotionally and spiritually. Thank you for your collegiate stimulation; you’re a great bunch! Happy Holidays! to all of you.

The Cytochrome P450 system: What is it and why should I care? (Continued from page 1)

Recently, researchers have studied the genetic variability in metabolism among women who were prescribed Tamoxifen and medications that inhibit the CYP2D6 enzyme. To review, Tamoxifen is biotransformed to the potent anti-estrogen, endoxifen, by this enzyme. CYP2D6 genetic variation (individuals considered extensive metabolizers versus poor metabolizers) and inhibitors of the enzyme markedly reduce endoxifen plasma concentrations in tamoxifen-treated patients.

The researchers concluded that CYP2D6 metabolism is an “independent predictor of breast cancer outcome in post-menopausal women receiving tamoxifen for early breast cancer. Determination of CYP2D6 genotype may be of value in selecting adjuvant hormonal therapy and it appears CYP2D6 inhibitors should be avoided in tamoxifen-treated women” (Goetz, Knox, Suman, Rae, et al 2007).

Do oncology patients come to us with only their cancer and its treatment; no they come with multifaceted dimensions and co-morbid condition such as HTN, dyslipidemia, depression, seizure disorders, etc. For example, several antidepressants (Paxil and Prozac) are inhibitors of metabolism when given with drugs metabolized through the CYP2D6 such as haldol, metoprolol (lopressor) and hydrocodone. Thus, the therapeutic response can be accentuated. Medications that inhibit the CYP3A4 such as amiodarone and antifungals, can affect the therapeutic response of fentanyl, alprazolam (xanax), and numerous statins—as a result, the effect of these drugs can be enhanced leading to potential toxic levels (Lehne, 2007).

At times, these CYP 450 inducers and inhibits are commonly ingested items such grapefruit juice and tobacco. In the case of grapefruit juice, there are numerous medications known to interact with grapefruit juice including statins, antiarrhythmic agents, immunosuppressive agents, and calcium channel blockers. Furthermore, the inhibition of the enzyme system seems to be dose dependent, thus the more a patient drinks, the more the inhibition that occurs. Additionally, the effects can last for several days if grapefruit juice is consumed on a regular basis. Luckily, the effect of this is not seen with other citrus juices.

Hopefully, this brief review has opened the door to your inquisitive nature on how the liver’s enzyme system is affected by numerous medications and why some patients experience clinically significant unanticipated adverse reactions or therapeutic failures.

References

Submit an Abstract for Congress 2008

Congress 2008 is just around the corner and with it is an exciting opportunity to release cutting-edge and innovative information. We want to hear from you! Submit your abstract now for the ONS 33rd Annual Congress, May 15-18, Philadelphia, PA.
October  Continued from page 4

There are three sequential effects of opioids: analgesia, sedation, and then respiratory depression. Many patients develop a tolerance to the drug over time. Thus, they need a higher dose to get the same previous effect. In cancer patients, increased doses may also be needed due to disease progression.

Many health care providers fear addiction when patients take opioids. Physical dependence is defined by signs and symptoms of withdrawal when the drug is not present. In contrast, addiction is a psychological dependence on the drug. Many cancer patients may develop physical dependence but are not addicted to the medication.

Morphine is conjugated in the liver and excreted in the urine. A decreased dose is thus needed when renal impairment is present. Long-acting morphine should not be administered to dialysis patients, as it will accumulate quickly since it cannot be broken down and eliminated. Hydromorphone is a safer drug to use with renal disease. It can be given IV or orally. Hydrocodone is only given orally, but it is the equivalent of morphine in potency. The limiting factor with dosing this drug is that it is coupled with acetaminophen or an NSAID, and these are dose-limited. Nevertheless, hydrocodone is the most commonly prescribed opioid.

Fentanyl, another opioid, is much more potent than morphine. When it is administered transdermally, 80% of the original dose remains in the patch after 72 hours. It must be disposed of carefully. Fentanyl is also available in a short-acting lollipop or as orally dissolving tablets.

Meperidine has very limited use due to the accumulation of a toxic metabolite that can cause seizures, broncho spasm, and death. Some hospitals have eliminated it from their formularies.

Methadone, another popular opioid has a long half-life that may be problematic. Dosing needs to start low and be titrated upwards as needed. Methadone affects multiple pain receptors, including neuropathic sites. It is inexpensive and comes in tablet and liquid form that includes several concentrations.

There are several impediments to opioid use. These side effects can be controlled. The initial nausea, sedation, and respiratory depression that may occur will usually diminish in 2-3 days. True addiction occurs in less than 6% of pain patients. Pruritis that can happen with morphine is a histamine-mediated response, not a true allergy. It can be treated with an antihistamine. However, there is no tolerance regarding the constipation caused by opioids. It is necessary to order a bowel regimen including a stool softener and a laxative.

Most oral opioids are short-acting, peaking in 90 minutes, and lasting 2-4 hours. Dosing should be escalated by 25-50% for mild/moderate pain, and 50-100% for severe pain. There is no maximum dose except for meperidine or products combined with APAP or NSAIDS. IV push opioids peak in 6-10 minutes, subq or IM peak in 30 minutes. Continuous infusions of opioids should start with a loading dose that is pushed slowly, and should include a bolus dose with each increase in the basal rate. Conversion tables should be used to switch between opioids.

For chronic pain control, one long acting and one short-acting opioid should be ordered. To determine the proper dose of the long acting med, a short acting should be ordered first, on an every 3-4 hour basis as needed. The amount needed for pain control after 24-48 hours determines the initial daily long-acting dose. For IV meds, find the effective bolus dose, then start the continuous infusion at half of the bolus amount. The breakthrough dose is usually 50% of the hourly rate, every 10 minutes as needed. When frequent breakthrough doses are needed, the long-acting or continuous dose needs to be increased. Respiratory depression is rare with proper titration.

The doses of morphine used for relief of dyspnea are much lower than the amounts used for pain control. For bone pain, NSAIDS and corticosteroids, along with opioids, may provide the best relief.

Opioid withdrawal is indicated by dilated pupils, piloerection, nasal flaring, and severe abdominal pain. Avoid the use of naloxone if possible due to the abrupt removal of the pain med’s effects, and due to naloxone’s short half-life. If a patient has overdosed on a long-acting opioid, the side effects will recur in a few minutes when the naloxone wears off.

In concluding, Dr. Stellini reminded us that it is unethical not to treat pain and that while medication given to control pain may shorten life in some cases that is not the intent of their use. It has been shown that terminally ill patients with good symptom management may actually live longer.

We look forward to seeing you in February at Andiamo!!
From the Editor
Continued from page 2

MEDICAL SUPPLIES
THE CANCER FUND OF AMERICA 865-938-5281  www.cfoa.org Provides for non-prescription medical needs such as nutritional supplements or incontinence supplies. Items available vary.

GENERAL FINANCIAL ASSISTANCE
ASSOCIATION OF JEWISH FAMILY AND CHILDREN'S AGENCIES 800-634-7346  www.ajfca.org - Agencies provide help for medical equipment, supplies, prescriptions and transportation to medical care.

BRENDA MEHLING CANCER FUND 800-770-8287  www.bmcf.net - The BMCF supports patients 18-40 currently undergoing cancer treatment with services to meet daily needs.

CATHOLIC CHARITIES, USA 703-549-1390  www.catholiccharitiesusa.org - Some local offices have limited funding available to provide emergency financial assistance.

CANCER CARE 800-813-HOPE  www.cancer.org - Offer a variety of financial assistance programs, call for eligibility requirements.

FRIENDS OF MAN 303-798-2342  www.friendsofman.org - Friends of Man is an all volunteer charity to help people with basic or special needs that cannot be provided elsewhere. They will assist with prostheses, wheelchairs, medical equipment, hearing aids and orthopedic shoes.

HOPE CANCER FUND 866-334-HOPE  www.hopecancerfund.com Provides a one time financial assistance program to families up to $150.00.

NETWISH  www.netwish.org - Will provide assistance, up to $500.00 for those who are able to demonstrate a financial need.

SALVATION ARMY 703-684-5500  www.salvationarmyusa.org - Local units can offer emergency financial assistance to families.

SURVIVING AND MOVING FORWARD
THE SAMFUND FOR YOUNG ADULT SURVIVORS OF CANCER  www.thesamfund.org - Provide various grants and scholarships to young adult survivors, ages 18-35, to help supplement the money that they and their families had lost during treatment, and pay for specific transitional issues, such as education, living, job search and lingering medical expenses.

FOOD PROGRAMS
MEALS ON WHEELS is dedicated to delivering meals to those who are homebound. For a referral to the Meals on Wheels serving your area, contact the national Eldercare office at 800-677-1116. To locate additional food program options including congregate meal programs, contact MealCall at www.MealCall.org or 704-907-6196 and search their database for programs in your area.

ANGEL FOOD MINISTRIES provides grocery relief and financial support. Participants can purchase groceries at a reduced cost through one of their host sites. Visit their website at www.angelfoodministries.com to see if there is program near you.

CANCER RECOVERY PROGRAM 800-238-6479  www.CancerRecovery.org - The Little Angel's Children's Project provides gift bags, camp scholarships and limited emergency funding to pediatric oncology patients under the age of 18, in the United States.

CATASTROPHIC ILLNESS AND CHILDREN RELIEF FUND 800-335-3863 - Provides financial assistance to families who have a disabled child through the age of 18 generally to reimburse medical or equipment costs.

CHILDREN'S MIRACLE NETWORK 801-278-8900  www.cmn.org Provides financial assistance with medical supplies, equipment, and transportation.

CLAYTON DABNEY FOUNDATION 214-361-2600  www.claytondabney.org - Provides gifts, last wishes and financial assistance to families. Child must be considered terminal, under the age of 21 and be referred by a healthcare professional.

FIRST HAND FOUNDATION 816-201-1569  www.firsthandfoundation.org - Assists individual children who have health related needs and no financial resources to cover these expenses.

FOUNDATION FOR CHILDREN WITH CANCER 314-822-2265  www.childrenwithcancer.org - Family must be referred by a healthcare professional and payments go directly to the vendor. There is currently a $500 limit per family.

FRIENDS4MICHAEL FOUNDATION 845-774-8781  www.friends4michael.org - Provides financial assistance to children afflicted with brain tumors and their families.

PATIENT ADVOCATE FOUNDATION 800-532-5274  www.PatientAdvocate.org - Website offers a directory of information for patients seeking financial relief.

Hope this gives you a new place to go when one of your patients says “I can’t afford to pay for that”.

Program Meeting Schedule 2008

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The Chapter Capsule

...is a publication of the Metropolitan Detroit Chapter of the Oncology Nursing Society. MDONS is devoted to improving the quality of care given to patients experiencing cancer. This newsletter is published four times a year, in spring, summer, fall and winter. Letters and articles from members are welcomed. All material is subject to editing for space and clarification. Neither the Metro Detroit Chapter nor the ONS National Office assumes responsibility for opinions expressed herein. Acceptance of manuscripts does not indicate or imply endorsement. Materials may be submitted to:

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Membership Application

Metropolitan Detroit Chapter - ONS

- New
- Renewal
- One Year $20.00
- 3 Years $50.00

National ONS Number (as noted on member cards): ______________________________

Name: _____________________________________________________________________

Institution Name: _____________________________________________________________________

Professional Position: ___________________________________________________________________

Business Address: Home Address:

Street: ________________________________ Street: ________________________________
City: ________________________________ City: ________________________________
State/Zip: ________________________________ State/Zip: ________________________________
County: ________________________________ County: ________________________________
Phone: ________________________________ Phone: ________________________________
Email: ________________________________ Email: ________________________________

Preferred Mailing Address: - Business - Home

Membership and Correspondence to: Rose Ermete, 9820 Levan, Livonia, Michigan 48150