Uganda Cancer Institute
Western Connecticut Health Network / University of Vermont

Global Health Exchange Program

PARTICIPANT’S GUIDE

David Chia, MD MSc / Fred Okuku, MBChB MMED / Jackson Orem, MBChB MMED / Majid Sadigh, MD
Taylor Goller / Karl Kristiansen
Updated July 2013
1. Welcome Note

I warmly welcome you to the Uganda Cancer Institute (UCI) and am delighted you chose to have your global health rotation with us. The UCI is the sole national cancer treatment center focusing mainly on clinical care, training and research. It is also globally known as where a childhood tumor, Burkitt’s lymphoma, was first described over 50 years ago and is therefore a unique global health site to enhance your learning experience. The UCI is also involved in an outreach community program that educates and screens for cancers in the community, we hope you can join in with the community team during your stay.

Uganda, as a country, is endowed with beautiful fauna and flora, virtually gifted by nature. During your stay, you may want to venture out for safari. Finally, our wonderful and friendly UCI clinical team will be available for you to assist you during your time here. We hope that you will have a rewarding experience at the UCI.

Dr. Jackson Orem
Uganda Cancer Institute Director

2. General Information

Uganda is located in East Africa and is bordered by the Democratic Republic of Congo, Kenya, Rwanda, South Sudan and Tanzania. Uganda achieved independence from the United Kingdom in 1962. It has 56 districts and Kampala, its capital city, sits close to Lake Victoria. According to the 2004 census, Uganda’s population is 27 million. Half of the population is 14 years of age or younger and just 2.2% are 65 or older. Between 15-17% of children are orphans. Infant mortality is 67 per 1000 live births and life expectancy at birth is 51. Purchasing Power Parity is $1,500 and the population below poverty line is 35%. As of 2007, there are 184,700 refugees from Sudan and 18,000 from Rwanda. The population of internally displaced persons is 1.4 million (mainly a result of conflict between the government and the Lord’s Resistance Army). There are around 20 different ethnic groups living in Uganda. A third of the population is Roman Catholic and a third is Protestant. Muslims and indigenous believers make up 16% and 18% of the population, respectively. The literacy rate is 70%.
In 2003, the number of people living with HIV/AIDS in Uganda was estimated at 530,000. The HIV/AIDS adult prevalence is 4.1%. Approximately 78,000 people died from HIV/AIDS in 2001.

**Kampala**

Uganda’s capital city, Kampala, is a bustling metropolis with an estimated population of 1.2 million people. The city was originally built on seven hills, but now encompasses 20 hills. English is the official and most widely spoken language in Uganda. However, there are 20 tribes whose members speak more than 60 dialects. Luganda is the major language in the Kampala district and the most widely used after English.

**Weather**

Uganda, being on the equator, has generally mild temperatures (60-80 degrees F is the annual range). There are typically 2 rainy seasons: April-May and September-November.

### 3. Brief History of Uganda

Evidence of human habitation of the land surrounding Lake Victoria dates back 50,000-100,000 years. Around 400 BC, the bands of Nilotic hunter-gatherers who originally lived in the area were infiltrated by Bantu-speaking tribes who migrated from the north, cleared the forests, and brought with them agriculture and metallurgy. The Bantus governed themselves through a system of clan-chiefs, which developed into larger political alliances around the time of the first millennium. Eventually, the Buganda Kingdom emerged as the predominant power along the shores of Lake Victoria by the time European explorers arrived in the 19th century. Buganda had a formidable military presence with an outrigger canoe navy that patrolled the waters of Lake Victoria and an army that numbered in the hundreds of thousands. The Buganda also built an infrastructure of roads, bridges and aqueducts across their territory and their capital was home to an estimated 40,000 people.

Contact with the outside world began in the mid-19th century driven largely by the ivory trade. The introduction of foreign religions, guns, and devastating epidemics of smallpox and sleeping sickness sent much of the territory into social and political unrest. An alliance between the British government and a newly-converted Christian Buganda led to a number of military victories that expanded Bugandan territory and established Britain as the dominant colonial power by the end of the 19th century.
The year 1894 marks a crucial transition in Ugandan history in that it is a time when the East Africa Company officially gave control of the territory to the British Government. This led to the creation of the Ugandan Protectorate, a British territory with borders that roughly corresponds to the present day ones. With this new territory, Britain was swift to levy taxes in attempts to recover some of their military expenses. British agents sought the aid of the Buganda chiefs to act as colonial administrators to aid in tax collection. As one can imagine, this was poorly received by neighboring peoples and led to backlash.

However, not all areas suffered under British administration. Once a means of collecting taxes was established, the British quickly promoted cotton growth and export. From 1905 to 1915, cotton exports rose from £200 to over £350,000 and allowed new schools to be built, as well as novel imports from Britain (metal roofing, bicycles, and automobiles) to be attained.

Through the first half of the 20th century, Ugandans became more and more discontented with Britain rule. As a result, Uganda began to seek independence both politically and economically. This sentiment was originally resisted by the British. However, in 1952 there arrived a new reformist governor, Sir Andrew Cohen, who began preparing Uganda for independence by granting many of the economic liberties that the Ugandan people had been demanding and also reformed the political system to include African representatives elected from districts throughout the country.

It would not be until April 1962 that the Ugandan people were able to hold the election that led to their independence in October 1962. At the time, Uganda was still strongly divided along ethnic, religious and political lines. Protestants dominated political life, while the majority of the citizenry were Catholic and from the ethnic groups of the north. In contrast, economic power was largely in the hands of a small group of Indian immigrants. In the country's first elections, Milton Obote of the Ugandan Peoples' Congress was elected prime minister. However, Obote overthrew the presidency behind the strength of a military lead by a young General Idi Amin in 1967. Amin, in turn, overthrew the Obote government in a political coup d'état when the Prime Minister was out of the country in 1971.

The ten-year dictatorial rule of Idi Amin Dada was a dark period in the history of Uganda. The economy quickly collapsed under his nationalistic policies and his military regime was directly responsible for the deaths of an unknown hundreds of thousands of Ugandans. Amin ruled the country through a disorganized system of martial law. Infighting within the military was common and rivalries often were settled with lethal force. Amin maintained power through the appeasement of the military, execution of the opposition, and terror through the general population. Amin's reign ended
with the Uganda-Tanzania War of 1979. Following an incursion by Amin’s army into Tanzania in pursuit of mutineers, President Julius Nyerere of Tanzania, a long-time ally of the former Prime Minister Obote, counter-attacked. In coordination with Ugandan military exiles organized as the Uganda National Liberation Army, Tanzanian forces captured Kampala in April 1979 and Idi Amin fled in exile to Saudi Arabia.

With the end of the Amin dictatorship in 1979, Uganda entered an interim period of government in which many different interests jockeyed for the rule of the nation. This ended in 1980 with a military coup and a general election in December of the same year, which gave power back to Milton Obote. Yoweri Musevini, however, disputed the election results and spent the next 4 years gaining the military power necessary to overthrow the Obote government. As a result, Musevini became president in 1986 and his presidency has remained until the present day.

4. Pre-Departure Orientation

To further prepare participants for the global health elective, there will be monthly global health seminars at Danbury Hospital and UVMCOM to cover diverse topics in global health as well as to make the participants familiar with the diseases common in the host country. For those who have been selected to go to UCI, two Saturdays will be devoted to pre-departure orientations.

The following checklist should be completed prior to departure:

- Contact UCI (Esther Loy Katali, kalyesloy@yahoo.com) about special interests and arrival details.
- Contact Host Family about accommodations, accompanying guests, arrival details and airport transfer.
- Contact Host Family about how you can contribute to the host family (e.g. education around US history and culture, computer literacy, engagement with specific projects (such as church, orphanages, schools, etc.))
- Notify your banks and credit card companies of your travel plans.
- Complete the medical license application and send to UCI (see Annex).
- Schedule travel clinic appointment for vaccinations and malaria prophylaxis.
- Schedule occupational health appointment for PEP and necessary medical supplies.
- Pick up SOS evacuation insurance from the Office of International Education.
- Register with the US State Department and Smart Traveler Enrollment Program (STEP) (travelregistration.state.gov/ibrs/ui/) to inform them of your travel and lodging arrangements.

5. What to Bring

- White Coat
- Stethoscope
- Reflex Hammer
6. Visa and Regulations

**Visa**

- A single-entry visa can be purchased for $50 at the airport. This must be paid in cash in with a $50 denomination and must be dated within the last 5 years.
- A multi-entry visa can be obtained for $100 from the Ugandan Embassy. For details on how to apply for a multi-entry visa visit: www.ugandaembassy.com/visa.html

**Ugandan Medical License**

If you are a resident, you will need to secure a Ugandan medical license. Since the license takes 4-6 weeks to process, UCI must submit the application for you in advance of your arrival. Please email the following documents as soon as possible to UCI:

- Passport Front Page
- Passport Photo
- Medical License (if applicable)
• Medical School and Residency Diploma (if applicable)
• Letter of Good Standing
• CV

The application fee is $200.

7. Arriving to Uganda

• Flight arrangements must be made to and from Entebbe Airport (EBB), which is about 40 minutes south of Kampala.
• A driver will be arranged to pick you up and take you to the airport at the time of your arrival and departure.

8. Accommodations

Most participants will be staying with Dr. Sam Luboga and his host family in Mpererwe Namere.

Directions:  Plot 777 Namere Mpererwe
            At 5 miles along Gayaza Road, left turn along Kitezi Road
            First left turn after Mpererwe Primary School and St. Stephen’s Church

There are many advantages of living with a host family. Most importantly, it allows for greater immersion and integration into the cultural, social and language components of the international experience. Moreover, it offers a network of support that will assist you with the transition into life in Uganda and can help alleviate emotional challenges related to the global health experience.

You will be given a guest bedroom with a private bathroom.

You will also be able to share communal, home-cooked meals with Dr. Luboga and his family.

Mpererwe Namere is a village located about 20-40 minutes northwest of Kampala. To commute to and from UCI, you will have two options:

1. You can carpool with your host family.
2. You can arrange a driver or special hire taxi for transportation at alternative times. It should be between 20,000-30,000 UGX one-way. The names and phone numbers of a few trusted drivers are listed in the public transportation section below.
Rent will be $800 for the period of your stay. Meals and laundry will be subject to a reasonable fee.

Additional host families among the UCI and Makerere University faculty may also be utilized depending on the availability of Dr. Luboga and the number of participants on the rotation. These faculty members include: Dr. Robert Kalyesubula, Dr. Fred Okuku and Dr. Jackson Orem.

9. Food and Drink

Traditional Ugandan cuisine consists of a combination of a protein and starch dish. A choice of beef, chicken, lamb, beans or peas are often stewed with various vegetables and accompanied by either matooke (boiled and mashed green banana), rice, ugali (maize meal), cassava or potatoes. Other common foods include chapati (an Indian flatbread) and ground nut sauce (a peanut sauce eaten plain or with meat). Fresh fruit and vegetable side-dishes are also served with most meals.

On Campus:

Both Mulago Hospital and the medical school have cafeterias for dining during the day. It is possible to get traditional cuisine for just a few dollars a day. The food is good, the service friendly and location convenient.

Recommended Restaurants:

- Mama Ashanti’s (Ghanaian)
- Fasika (Ethiopian)
- Masala Chaat House (Indian)
- Khaza Khazana (Indian)
- Haandi (Indian)
- Club 5 (Indian)
- Krua Thai (Thai)
- Yujo Sushi Bar (Japanese)
- Fang Fang (Chinese)
- Fez Brasserie (International)
- Mambo Point Pizzeria (Italian)

Recommended Coffee Shops:

- Cafe Java’s
- One Thousand Cups
- Café Pap

10. Financial Issues

- The local currency is the Ugandan Shilling (UGX).
- The exchange rate is approximately 1 USD = 2500 UGX.
- Uganda is essentially a cash-only society.
- All US dollars that you bring to Uganda must in $50 or $100 denominations and be dated within the last 5 years.
ATMs are widely available in Kampala. Most ATMs accepted VISA, however only Stanbic Bank ATMs accept Mastercard at this time.

11. Public Transportation

- Uganda has the second highest number of motor vehicle fatalities in the world.
- As a result, you should never travel by boda boda (motorcycle taxis).
- Instead, it is recommended that you use special-hire taxis for transportation around town, especially at night. It is inexpensive and is the safest option. Always settle on the price of your trip before getting in the vehicle.

Recommended Drivers:

- Akram: 0776962792
- Patrick: 0772489298
- Joseph: 0782001865

12. Keeping in Touch

Cellular Phones:

- Cell phones are ubiquitous in Uganda and offer the most reliable method of communication.
- Two cell phones will be available to you to borrow during your time with UCI.
- However, if they are both taken, it is very easy to purchase a new cell phone for around $20. These phones are unlocked and will work on any network. All you have to do is purchase a SIM card ($1) from your network of choice to activate the phone with a local number and airtime cards to add minutes. You will
need to bring identification with you when purchasing a SIM card. Airtime cards can be purchased easily throughout Kampala.

**International Calls:**
- Prices to call the US from Uganda using a cell phone is ~$1/minute. In contrast, incoming calls (including calls from the US) are FREE, therefore it is much less expensive to have family and friends in the US call you.
- To call Uganda from the US, dial 011 256, then the number. Leave off the ‘0’ in front of all phone numbers.
- To call the US from Uganda, dial +1, then the number.

**Internet Access:**
- Two USB Wifi Toggle will be available to you to borrow during your time with UCI. You can purchase and recharge data plans at Orange stores.
- There is also internet available at UCI and at internet cafes all over Kampala.

**13. Staying Safe**

**General Precautions:**
- Stay up-to-date regarding local news and official travel advisory information from the US Embassy.
- Avoid walking alone at night and in poorly lit areas. Please travel by special hire taxi in these circumstances.
- Do not carry large amounts of money or valuables with you that might attract unwanted attention.
- Do not leave valuables in common areas.

**Food and Water:**
- Wash your hands often with soap and water.
- Drink only bottled or boiled water.
- Avoid tap water and ice cubes.
- Avoid street food.

**Traffic:**
- Walk very carefully and defensively at all times.
- Avoid any travel using boda bodas (motorcycle taxis) for they are involved in daily fatalities.

**14. In Case of Emergency and Illness**
- Always keep your passport in a secure place and carry a copy of your passport and visa with you instead.
- Email the US-based site director of your safe arrival and with your mobile phone number during your stay.
- Keep emergency numbers for your local site supervisor, US-based site director and UVMCOM occupational health services on hand.
Inform your local site supervisor and host family if you are traveling during weekends and holidays.
Inform your local site supervisor and host family of any significant illness requiring medical attention.
In event of an emergency, such as a political disturbance, contact your local site supervisor and US-based site director immediately to seek advice regarding your safety.

Emergency Contact Information:

- **Local Site Coordinator:** Esther Loy Katali
  kalyesloy@yahoo.com
  +256782-348560 / +256755-348560

- **Local Site Supervisor:** Fred Okuku
  machyokuku2001@yahoo.com
  Cell: 0772485172 / Office: +256 414 540 410

- **US Site Director:** David Chia
  david.chia@yale.edu
  612-803-1627

Recommended Healthcare Centers:

- The Surgery (2 Acacia Road)
- International Medical Clinic (Watoto Church Building, Bombo Road)
- International Hospital Kampala (St. Barnabus Road)

To file a claim for reimbursement from your insurance company once you return home, you will need to save all receipts and details of care provided.

**Post Exposure Prophylaxis (See Annex)**

**15. Uganda Cancer Institute**

Uganda Cancer Institute is a public, tertiary care cancer treatment, research and teaching center affiliated with Makerere University College of Health Sciences and Mulago Hospital and financed by the Ugandan Ministry of Health.

UCI was founded in 1967 as the Lymphoma Treatment Center for the treatment of childhood lymphomas, particularly Burkitt’s lymphoma, which is endemic in Uganda. UCI was expanded with the addition of the Solid Tumor Center in 1969 to over 40 beds.

In 2011, construction began on a new integrated cancer training, research and treatment facility. This
project is scheduled to be completed in 2014.

Vision Statement
To be an internationally recognized center of excellence advancing comprehensive cancer management in Africa.

Mission Statement
Provision of state of the art cancer care and prevention by advancing knowledge, fostering the use of research as a resource in training and professional development.

16. Meet the Global Health Exchange Staff

Esther Loy Katali
Coordinator
Uganda Cancer Institute

Dr. Fred Okuku
Medical Oncologist
Solid Tumor Ward
Uganda Cancer Institute

Dr. Sam Luboga
Name: Luboga Samuel Abimerech
**Date of Birth:** 24th June 1948

**Marital Status:** Married to Christine Luboga and have seven children (six sons and one daughter)

**Place of Birth:** Namungalwe in Iganga District

**Domicile:** Resident and citizen of Uganda

**Profession:** Medical Doctor and Priest

**Spiritual Affiliation:** Born Again Christian and a member of the Church of Uganda Anglican.

**Service to the Community:** Has helped communities start and run Community Health Project, most notable among which is St. Stephen's Hospital and is a member and chair of several not for profit charitable organizations

**Spiritual Affiliation:** Born Again Christian and a member of the Church of Uganda Anglican.

**Research Interests:** Human and Comparative Anatomy, Health Professional Education, Leadership and Management and Health Systems Strengthening.

**Hobbies:** Story Telling, Public Speaking and Indoor games, e.g. Table Tennis


**Employment:** Currently Associate Professor of Anatomy at the Makerere University College of Health Sciences.

**17. Clinical Rotation**

The Uganda Cancer Institute is a sprawling complex of buildings on a hill above Mulago Hospital and Makerere University College of Health Sciences. There is an outpatient clinic, two inpatient wards, a private ward, research center, clinical laboratory, pharmacy and radiographic suite. The two inpatient wards each have over 20 beds and are divided into the Lymphoma Treatment Center for liquid tumors and pediatrics and the Solid Tumor Center for solid tumors.

Each inpatient ward is primarily staffed by two medical officers (physicians who have completed medical school and an internship year).

Ugandan medical students are present during their second semester (February to May) for 1 week electives, while senior house officers (resident physicians) from internal medicine, pediatrics and surgery are present during the same time period for 2 week electives.

Foreign medical students and residents, primarily from Yale University and University of Washington, may also be in attendance intermittently throughout the year.

Attending medical oncologists conduct bedside rounds with the medical team 3 times a week (Mondays, Tuesdays, Fridays). The medical record is compiled for each individual in a paper chart that contains a face sheet, progress notes, diagnostic results and chemotherapy treatment flow sheet. Orders are written on individual request forms. Blood draws are performed primarily by the phlebotomist or nurse.
Radiologic studies require transport to the UCI radiographic suite for plain films and ultrasonography or Mulago Hospital for CT and MRI studies. Drugs are obtained by family members from the pharmacy, but administered by the nurses. Common procedures performed on the inpatient wards include: punch biopsies, bone marrow biopsies, lumbar puncture, thoracentesis and paracentesis.

The care of the patients is subsidized by the Ugandan government. All outpatient visits, inpatient admissions, basic diagnostic tests, medications available in the hospital pharmacy and chemotherapy are covered free of charge. ICU admissions, advanced diagnostic tests (including EKGs, CXRs, CT/MRI, U/S), surgical procedures and medications not available in the hospital pharmacy are subject to out-of-pocket fees. Patients may also pay to be seen in the private clinic or be admitted to the private ward, which offers shorter wait times and higher nurse-to-patient ratios.

**Weekly Schedule**

**Feedback Sessions and Support Group (1x/wk):** Every Monday a feedback session and support group will be held with Dr. Okuku to allow for continuous quality improvement of the global health experience and to monitor how participants are doing emotionally with the contrasts between the US and Uganda.

**Tumor Board (1x/wk):** Every Tuesday Tumor Board is held to discuss challenging cases in a multidisciplinary manner that involves medical oncology, radiation oncology, surgery and other specialties.

**Research in Progress (1x/wk):** Every Wednesday Research in Progress Meeting is held and is an update on ongoing research projects occurring at UCI.

**Evidence-Based Medicine (1x/wk):** Every Wednesday an evidence-based medicine conference is held and will involve medical students and residents investigating a clinical question that arose during the week, presenting a short synopsis of the current evidence, and applying it to their patient. Medical students and residents must come prepared with copies of their article to share with the team.

**Case Conference (1x/wk):** Every Friday a teaching case conference is held and will involve a case-based discussion on high-yield topics seen commonly in the outpatient and inpatient settings. Topics may include:

- Kaposi Sarcoma
- Burkitt’s Lymphoma
- HIV and Malignancy
- Neutropenic Fever
- Opportunistic Infection
- Tuberculosis

Luganda language and Ugandan history, cultural and political sessions will be moderated by your host family at their house over the dinner hour.

**Cancer Outreach:** Several times a month a cancer outreach team visits the surrounding communities to provide education on cancer awareness and self-breast exams along with breast cancer screening using clinical breast exams and cervical cancer screening.
**St. Stephen’s Hospital:** St. Stephen’s Hospital is a small community hospital with both outpatient and inpatient services. Participants should plan on a visit to the facility for a laboratory teaching session and home visits. Please contact Dr. Cathy Kwagala for assistance.

**Mulago Hospital:** It is possible to arrange elective time at Mulago Hospital on any of the inpatient wards. This shall involve a day or two on a service to have the opportunity to see unusual disease unique to Uganda, such as endomyocardial fibrosis. Please contact Dr. Fred Okuku for assistance.

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback Sessions</td>
<td>Pediatric Tumor Board</td>
<td>Research in Progress</td>
<td>Case Conference</td>
<td></td>
</tr>
<tr>
<td>and Support Group</td>
<td>Board Boardroom</td>
<td>Boardroom</td>
<td>Boardroom</td>
<td></td>
</tr>
<tr>
<td>TBD</td>
<td>0800-0900</td>
<td>0800-0900</td>
<td>0800-0900</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Head &amp; Neck Tumor Board</td>
<td>Evidence-Based Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outpatient Clinic</td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0800-0900</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Attendance, Duties and Expectations**

Participants must be open-minded, adaptable, motivated and sensitive to local priorities. It important to remember to be a good representative of your home institution and country.

Attendance is mandatory for all assigned clinical responsibilities, scheduled didactic and feedback sessions. If you will be absent, you are required to inform the local site supervisor. You are free to do as you please on the weekends and holidays. However, if you do plan to travel outside of Kampala, you are required to inform both the local site supervisor and your host family for your own safety.

There is flexibility built into the system to tailor your schedule to your personal interests. Consequently, please let UCI know if you have any special interests or preferences regarding: adult vs. pediatric patients; liquid vs. solid tumors; inpatient vs. outpatient care; research interests.

**Clinical Role**

Residents and advanced medical students (3rd/4th year) are encouraged to take an active part in the care of the patients at UCI, while medical students (1st/2nd year) earlier in their training should see their primary clinical role as that of an observer.

It is important to keep in mind that there is less supervision in Uganda, so it is equally important to know your limits and not to go beyond them because it may pose a danger both to the patient and to the practitioner.

Medical students (3rd/4th year) and residents should clerk 1-2 and 3-4 patients, respectively. Clerking should involve working closely with your Ugandan counterparts to maximize the exchange of information, mutual instruction and partnership. US participants have much to learn about the epidemiology, medical infrastructure and resources available at UCI. US participants also have plenty to contribute to the medical education of Ugandan medical students and house officers.
Participants should pre-round and present their patients. They will present to the attending physicians when they conducting work rounds (Mondays, Tuesdays, Fridays) and to the house officers on intervening days to come up with a joint assessment and plan. Participants should document H&Ps and progress notes, assist with writing orders and consults, and contribute to any other elements essential to patient care, including performing procedures with adequate supervision.

Residents and medical students should rotate between them so that one participant joins Dr. Okuku on Thursday afternoons for outpatient clinic. Residents and medical students should perform parts of the history and physical or assist with documentation and orders in order to maximize the efficiency of what is a rather busy clinic day.

Teaching Role

Medical students and residents should feel comfortable assuming a small teaching role with Ugandan medical students and house officers, respectively. Fourth-year Ugandan students have had little patient contact and clinical instruction before they begin on the wards. They are very eager for any clinical teaching one might provide. Opportunities for teaching include instruction on “pre-rounding” and practice with patient presentations. Senior house officers often do not have the time to assist medical students in organizing their presentations or expanding their differential diagnoses. Moreover, instruction on aspects of the physical exam, patient-centered care, EKG and CXR interpretation are also generally well-received.

Quality Improvement Project

During their rotation, participants will be expected to design and implement a quality improvement project at UCI. While on the wards during their first two weeks, participants will become oriented to the healthcare delivery system at UCI and should be cognizant of possible ways those systems could be improved. In the second two weeks, participants should meet with a UCI faculty member to discuss their ideas and to design a feasible intervention. In the final two weeks, participants in collaboration with the UCI staff should implement the intervention and monitor it for its successes, unexpected challenges, and needs for modification.

It is important to keep in mind that the goal of the quality improvement project is not to “teach” the UCI staff about how to run their hospital, but to take advantage of the perspectives and experiences of visiting students and doctors to devise innovative ways to improve patient outcomes.

Past projects have included: the development of standardized treatment guidelines at UCI for medical officers and visiting students and doctors; the development of a telemedicine partnership between UCI and the Department of Pathology at UVM to discuss challenging cases where there is diagnostic uncertainty.

Conferences

Medical students and residents are expected to lead either a case conference or research in progress meeting during their time at UCI. Please contact Dr. Fred Okuku to schedule a date and to discuss your topic prior to the meeting itself.

Research
There are many opportunities to conduct research at UCI. However, in order to do so, advanced planning, effective communication and partnership is essential. Interested participants will need to identify research mentors early at both UVMCOM/WCHN and UCI in order to design a meaningful and feasible project with an emphasis on collaboration, bioethics, maximizing benefits to the local community and minimizing risks. IRB approval will be necessary at both home and host institutions along with any associated fees.

Of note, the creation of a solid tumor cancer registry is currently underway. Participants interested in research may choose to join this project by either expanding the database or by designing a study within the database and performing subgroup analysis to answer specific research questions. IRB approval has already been obtained for this project.

Feedback

We are continuously striving to improve the UCI experience. For that reason, you will be attending weekly feedback sessions, asked to complete an end-of-rotation evaluation, and to write a reflection based on your experiences at UCI. The global health experience at UCI can be overwhelming at times given the emotional impact of high morbidity and mortality with limited availability of resources. As a result, the weekly feedback sessions should also function as a support group to discuss these issues, provide emotional support and assist with assimilating into a new setting to help alleviate any culture shock one may encounter.

Field Trips

Your host family may assist you in organizing field trips during the weekends and holidays.

Popular field trips include:

- Whitewater Rafting on the Nile River and Speke Garden in Jinja
- Origin of HIV in Kasensero
- Gorilla Trekking in Bwindi Impenetrable Forest
- Safari at Murchison Falls and Queen Elizabeth
- Sipi Falls
- Lake Bunyonyi
- Rwanda
- Cultural Dancer Performance at the Ndere Center
- Uganda Museum
- National Mosque

18. Recommended Resources

Medical References:

- Oxford Handbook of Tropical Medicine

Books:

- Blue Nile - Alan Moorehead
- White Nile - Alan Moorehead
- We Wish to Inform You that Tomorrow We Will Be Killed With Our Families - Philip Gourevitch
- Long Walk to Freedom - Nelson Mandela
- AIDS in the Twenty-First Century: Disease and Globalization – Tony Barnett and Alan Whiteside

Films:
- The Last King of Scotland
- Gorillas in the Mist
- Hotel Rwanda
- The Constant Gardner

19. Contact Information

UCI Coordinator: Esther Loy Katali
kalyesloy@yahoo.com
+256782-348560 / +256755-348560

UCI Supervisor: Fred Okuku
machyokuku2001@yahoo.com
0772485172

UCI Director: Jackson Orem
jorem@mucwru.or.ug
0782320543

US Site Director: David Chia
david.chia@yale.edu
612-803-1627

UVMCOM/WCHN Director: Majid Sadigh
msadigh@gmail.com
203-885-8895

UVMCOM Coordinator: Gina Lacey
gina.lacey@wchn.org
203-739-4964

St. Stephen's Hospital: Cathy Kwagala
Medical Officer
ckwagala@gmail.com
0772695025

Host Family: Sam Luboga
lubogasam@gmail.com
0772503275

Robert Kalyesubula
rkalyes@yahoo.com
0772442700

Susan Nalugo
0712134040

Drivers:
  • Akram 0776962792
  • Patrick 0772489298
  • Joseph: 0782001865

Occupational Health Services: University of Vermont
Department of Risk Management & Safety
802-656-3242

Danbury Hospital
Travel Clinic
203-749-5720
Annex: UCI Clinical Laboratory Services

<table>
<thead>
<tr>
<th>Hematology</th>
<th>Cardiac Markers</th>
<th>Infectious Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBC</td>
<td>CK-NAC*</td>
<td>Rubella IgM</td>
</tr>
<tr>
<td>Blood Smear</td>
<td>CK-MB*</td>
<td>HBcAg</td>
</tr>
<tr>
<td>ESR</td>
<td>LDH</td>
<td>Anti-HCV</td>
</tr>
<tr>
<td>Peripheral Film Report</td>
<td>AST*</td>
<td>CMV IgM</td>
</tr>
<tr>
<td>Reticulocyte Count</td>
<td>Troponin*</td>
<td>CMV IgG</td>
</tr>
<tr>
<td>Blood Group &amp; Cross-Match</td>
<td></td>
<td>Toxo IgM</td>
</tr>
<tr>
<td><strong>Serology</strong></td>
<td><strong>Fertility Studies</strong></td>
<td>Toxo IgG</td>
</tr>
<tr>
<td>HBsAg</td>
<td>FSH</td>
<td>HPV IgM</td>
</tr>
<tr>
<td>HCV*</td>
<td>LH</td>
<td>HBeAg</td>
</tr>
<tr>
<td>TPHA</td>
<td>Prolactin</td>
<td>EBV IgM</td>
</tr>
<tr>
<td>H. Pylori*</td>
<td>Progesterone</td>
<td>EBV IgG</td>
</tr>
<tr>
<td>RF</td>
<td>Testosterone</td>
<td>Blood Culture</td>
</tr>
<tr>
<td>HIV Screen</td>
<td></td>
<td>Estradiol</td>
</tr>
<tr>
<td><strong>Renal Function</strong></td>
<td></td>
<td>DHEA-S</td>
</tr>
<tr>
<td>Electrolytes*</td>
<td></td>
<td>Parasitology</td>
</tr>
<tr>
<td>Serum Creatinine*</td>
<td></td>
<td>Urinarlysis</td>
</tr>
<tr>
<td>Serum Urea*</td>
<td></td>
<td>Semen Analysis</td>
</tr>
<tr>
<td>Liver Function</td>
<td></td>
<td>Stool Analysis</td>
</tr>
<tr>
<td>Albumin*</td>
<td>Amylase*</td>
<td></td>
</tr>
<tr>
<td>Total Protein*</td>
<td>Lipase*</td>
<td></td>
</tr>
<tr>
<td>ALP*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOT*</td>
<td>CA 125</td>
<td></td>
</tr>
<tr>
<td>GPT*</td>
<td>CA 19-9</td>
<td></td>
</tr>
<tr>
<td>GGT*</td>
<td>CA 15-3</td>
<td></td>
</tr>
<tr>
<td>Total Bilirubin*</td>
<td>AFP</td>
<td></td>
</tr>
<tr>
<td>Direct Bilirubin*</td>
<td>Beta-HCG</td>
<td></td>
</tr>
<tr>
<td><strong>Lipid Profile</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cholesterol*</td>
<td>tPSA</td>
<td></td>
</tr>
<tr>
<td>TG*</td>
<td>FPSA</td>
<td></td>
</tr>
<tr>
<td>HDL*</td>
<td>FOBT</td>
<td></td>
</tr>
<tr>
<td>LDL*</td>
<td>S-100</td>
<td></td>
</tr>
<tr>
<td><strong>Extended Metabolites</strong></td>
<td>Ca 72-4</td>
<td>CSF Cytology</td>
</tr>
<tr>
<td>Calcium*</td>
<td>NSE</td>
<td></td>
</tr>
<tr>
<td>Magnesium*</td>
<td>Cyfra 21-1</td>
<td></td>
</tr>
<tr>
<td>Phosphate*</td>
<td>Thyroid Function</td>
<td></td>
</tr>
<tr>
<td>Bicarbonate*</td>
<td>Cortisol</td>
<td></td>
</tr>
<tr>
<td>Lithium*</td>
<td>TSH</td>
<td></td>
</tr>
<tr>
<td>Iron*</td>
<td>T3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anti-Tg</td>
<td></td>
</tr>
</tbody>
</table>

* Diagnostic test is performed at Mulago Hospital

** Additional diagnostic tests are available at Mulago Hospital and to send-out laboratories.
Annex: UCI Formulary

<table>
<thead>
<tr>
<th>No</th>
<th>Item description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5-FLUOROURACIL 50MG/ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>6-MERCAPTOPURINE 50MG TABLETS</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>ANASTROZOLE 1MG TABLETS</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>BICALUTAMIDE 150MG TABLETS</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>BLEOMYCIN SULPHATE USP 15 IU VIAL</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>CALCIUM FOLINATE 50MG/5ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>CAPECITABINE 500MG TABLETS</td>
<td>20</td>
</tr>
<tr>
<td>8</td>
<td>CARBOPLATIN 10MG/ML, 45 ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>CHLORAMBUCIL 2MG TABLETS</td>
<td>25</td>
</tr>
<tr>
<td>10</td>
<td>CISPLATIN 1MG/ML 50ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>CYCLOPHOSPHAMIDE 100MG CAPSULES</td>
<td>10</td>
</tr>
<tr>
<td>12</td>
<td>CYCLOPHOSPHAMIDE 1GM VIAL</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>CYTARABINE 20MG/ML, 5ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>DACARBAZINE 200MG VIAL</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>DACTINOMYCIN 500MCG VIAL</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>DAUNORUBICIN HCL 20MG VIAL</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>DIETHYLSTILBESTROL 5MG TAB</td>
<td>28</td>
</tr>
<tr>
<td>18</td>
<td>DOCETAXEL 40MG/ML 2ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>DOXORUBICIN HYDROCHLORIDE 50MG VIAL</td>
<td>1</td>
</tr>
<tr>
<td>20</td>
<td>EPIRUBICIN HCL 2MG/ML 25ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>ETOPOSIDE 20MG/ML 5ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>FILGRASTIM 300MCG/ML 1ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>23</td>
<td>FLUDARABIN PHOSPHATE 50MG VIAL</td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td>GEMCITABINE HCL 1G IN 25ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>25</td>
<td>GOSERELIN 3.6MG INJECTION</td>
<td>1</td>
</tr>
<tr>
<td>26</td>
<td>HYDROXYUREA 500MG CAPSULE</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Product Name</td>
<td>Quantity</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>27</td>
<td>IFOSFAMIDE-MESNA 1GM VIAL</td>
<td>1</td>
</tr>
<tr>
<td>28</td>
<td>IRINOTECAN INJ.20MG/ML 5ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>29</td>
<td>L-ASPARAGINASE 10,000IU VIAL</td>
<td>1</td>
</tr>
<tr>
<td>30</td>
<td>LEUPRORIDE ACETATE INJ 3.75MG/ML</td>
<td>1</td>
</tr>
<tr>
<td>31</td>
<td>LOMUSTINE 40MG CAPS</td>
<td>1</td>
</tr>
<tr>
<td>32</td>
<td>MELPHALAN 2MG TABLET</td>
<td>25</td>
</tr>
<tr>
<td>33</td>
<td>MELPHALAN 5MG TABLET</td>
<td>25</td>
</tr>
<tr>
<td>34</td>
<td>METHOTREXATE HCL 2.5MG TABLETS</td>
<td>100</td>
</tr>
<tr>
<td>35</td>
<td>METHOTREXATE SODIUM 50MG/2ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>36</td>
<td>OXALIPLATIN INJ 5MG/ML 10ML VIAL</td>
<td>1</td>
</tr>
<tr>
<td>37</td>
<td>PACLITAXEL 100MG VIAL</td>
<td>1</td>
</tr>
<tr>
<td>38</td>
<td>PAMIDRONATE DISODIUM 60MG VIAL</td>
<td>1</td>
</tr>
<tr>
<td>39</td>
<td>PAMIDRONATE DISODIUM 90MG VIAL</td>
<td>1</td>
</tr>
<tr>
<td>40</td>
<td>PROCARBAZINE 50MG TABLET</td>
<td>50</td>
</tr>
<tr>
<td>41</td>
<td>TAMOXIFEN 20MG TABLET</td>
<td>28</td>
</tr>
<tr>
<td>42</td>
<td>TEMOZOLAMIDE 100MG CAPS</td>
<td>5</td>
</tr>
<tr>
<td>43</td>
<td>TEMOZOLAMIDE 140MG CAPS</td>
<td>5</td>
</tr>
<tr>
<td>44</td>
<td>TEMOZOLAMIDE 250MG CAPS</td>
<td>5</td>
</tr>
<tr>
<td>45</td>
<td>THALIDOMIDE 100MG CAPSULES</td>
<td>30</td>
</tr>
<tr>
<td>46</td>
<td>THALIDOMIDE 50MG CAPSULES</td>
<td>30</td>
</tr>
<tr>
<td>47</td>
<td>THIOGUANINE 40MG TABLETS</td>
<td>25</td>
</tr>
<tr>
<td>48</td>
<td>VINBLASTINE SULFATE 10MG VIAL</td>
<td>1</td>
</tr>
<tr>
<td>49</td>
<td>VINCRISTINE SULPHATE 2MG VIAL</td>
<td>1</td>
</tr>
</tbody>
</table>
APPLICATION FORM

1. INFORMATION ABOUT APPLICANT

1. Surname ..............................................................................................................................................

2. First Names ........................................................................................................................................

3. Telephone No............................................Fax.................................................................

4. E-mail ...........................................................................................................................................

5. Nationality ........................................................................................................................................

6. Sex: ....................................................................................................................................................

7. Date, Month and Year of birth ........................................................................................................

8. Marital Status (Single/ Married/divorced/widowed) tick

9. Current Employer .............................................................................................................................

10. Present Permanent Postal address:

..............................................................................................................................................
10. Understanding of spoken/written English: (tick one)
   1. Excellent
   2. Good
   3. Fair
   4. None

11. Other languages .................................................................

GRF 2003

Note: (i) Attach two clear passport size own latest photographs

(ii) In case of married female doctors who are using husband’s names, attach Certified/Notarised copies of Marriage Certificate.

(iii) Attached detailed curriculum vitae

II. REASONS FOR APPLICATION

13. Category of Registration applied for: (tick one)
   - Provisional Registration
   - Full registration
   - Specialist registration
   - Temporary registration (for non-Ugandans)

14. Purpose.............................................................

.............................................................

15. Employment commencing on...........................................

.............................................................
16. Intended Employer

.................................................................

.................................................................

17. Postal Address of Employer

.................................................................

.................................................................

18. Employer

Telephone no............................Fax..............................

E-mail..............................................

GRF 2003

III. UNIVERSITY EDUCATION

19. Universities attended for medical or dental education

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>UNIVERSITY</th>
<th>AWARD TITLE</th>
<th>DURATION OF TRAINING</th>
<th>YEAR OF AWARD</th>
</tr>
</thead>
</table>

25
20. Field of specialization, if any..............................................

   Note: Certified/Notarised copies of above award,
   Academic transcripts and Course content should be attached

21. Internship training

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>HOSPITAL</th>
<th>FIELD</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   Note: Attach evidence that internship was done.

22. Are you a registered medical/dental practitioner?

   Yes   No
   [ ]   [ ]
GRF 2003

Note: Attach Certified/ Notarised copy of your current registration, certificate with the council, Board or equivalent medical/dental regulatory body of a country where you are currently practicing or where you have been practicing previously in the immediate past years.

IV. EMPLOYMENT RECORD

Evidence of practice for the last five years.

<table>
<thead>
<tr>
<th>Name of Employer</th>
<th>Duration (from ___ to ___)</th>
<th>Nature of Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23. Do you have a certificate of Good Standing in medical or dental practice issued by a council, Board of equivalent medical/dental regulatory body of a country where you are currently practicing or where you have been practicing previously in the immediate past years?

Yes                      No

Note: Attach a copy of a certificate of Good Standing

V. DECLARATION
I, the undersigned, do hereby certify that under the Medical and Dental Practitioner’ Statue of 1996 of the Laws of Uganda, the responses given by me to all the above questions, are true, and correct.

...........................................................................................................................................................................
...........................................................................................................................................................................
...........................................................................................................................................................................

Name........................................Signature........................................Date

GRF 2003
FOR OFFICIAL USE ONLY

Decisions taken:


Reason if not accepted


DATE............. REGISTRAR.............
Annex: Post-Exposure Prophylaxis

In the case of a needle stick and other blood or body fluid exposures which may occur while traveling and working abroad, follow the recommendations below. Please note the following:

1. It is important to run a WHAT IF scenario with your local attending or supervisor BEFORE an actual needle stick accident does happen.
2. We provide participants with a 7 day supply of PEP. If you are a medical student at UVMCOM or a resident physician with WCHN, then your PEP supply should be covered by your health insurance.

<table>
<thead>
<tr>
<th>STEPS TO FOLLOW IN CASE OF A NEEDLE STICK ACCIDENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do not panic</td>
</tr>
<tr>
<td>2. Remove gloves and wash hands with soap and water or rinse exposed mucus membranes with water for 5 minutes.</td>
</tr>
<tr>
<td>3. Notify your local and US supervisor (Dr. Sadigh - 203-885-8895, Dr. Chia – 612-803-1627) immediately and with their help decide if you need prophylaxis (see Steps A, B, C).</td>
</tr>
<tr>
<td>4. If a decision is made that you need prophylaxis, take the first dose as soon as possible. Be aware of the potential interactions of PEP with other medicines you may be taking (including oral contraceptives).</td>
</tr>
<tr>
<td>5. Do rapid test on source patient. This may require consent from the patient. Discuss with your attending local regulations.</td>
</tr>
<tr>
<td>6. Do rapid test on yourself and document the results.</td>
</tr>
<tr>
<td>7. Begin treatment using your supply of antiretroviral drugs.</td>
</tr>
<tr>
<td>9. When you come back, get in touch with Occupational Health to get follow-up HIV testing at 6 weeks and 3 months after exposure.</td>
</tr>
</tbody>
</table>

Comment [DC1]: Will need to update this contact information with correct numbers.
**STEP A. Determine Exposure Code (EC) for Health Care Worker**

- Exposure to blood, tissues, semen, vaginal secretions, CSF, synovial, pleural, peritoneal, pericardial and amniotic fluids

  - What type of exposure?
    - Mucous membrane or skin compromised?
      - Intact skin
      - Needlestick / Cut
        - NO PEP
        - EC 1
        - EC 2
        - EC 2
        - EC 3

  - Volume
    - Small (few drops)
    - Large (major splash)
      - EC 1
      - EC 2


**STEP B. Determine the HIV Status Code (SC) for Exposure Source**

- Determine Source Patient HIV Status Code
  - HIV NEGATIVE (tested this admission & clinical suspicion low)
    - NO PEP
  - HIV POSITIVE
    - Status Unknown
      - HIV SC UNKNOWN
      - HIV SC 1
      - HIV SC 2
    - On ARVs
      - Asymptomatic CD4 > 400
      - Advanced HIV Admitted with OI CD4 < 200

STEP C. Determine PEP Recommendations

All students with exposure code 1, 2, or 3 who desire PEP are recommended to take the expanded regimen PEP (2 drugs).

<table>
<thead>
<tr>
<th>Exposure code (EC)</th>
<th>Status Code (SC) for HIV source</th>
<th>PEP (all courses are for 28 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3</td>
<td>1 or 2</td>
<td>Truvada and Aluvia (read package inserts)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This is the expanded regimen in your antiretroviral kit</td>
</tr>
<tr>
<td>1, 2, 3</td>
<td>Unknown</td>
<td>Start regimen above until source patient HIV status is known or for full 28 days if unable to find out source patient HIV status</td>
</tr>
</tbody>
</table>

Your kit provides a 7 day supply of drugs. If you are advised to complete the 28-day treatment course, then there will be additional drugs available in the UCI office and/or additional PEP will be shipped to you directly from Walgreen’s Pharmacy at Danbury Hospital.

MOST COMMONLY PRESCRIBED DRUGS FOR PEP

<table>
<thead>
<tr>
<th>COMMERCIAL NAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viread</td>
</tr>
<tr>
<td>Emtriva</td>
</tr>
<tr>
<td>Epivir</td>
</tr>
<tr>
<td>Kaletra or Aluvia</td>
</tr>
</tbody>
</table>

Tenofovir (TDV) and Emtricitabine (FTC) are both nucleoside reverse transcriptase (NRT) inhibitors. They are also sold in a combined formulation called Truvada. Dosing is 1 tablet a day (TDF 300 mg and FTC 200 mg).

Lopinavir and ritonavir are both protease inhibitors. The combination of these two drugs comes is formulated under the name Aluvia. Aluvia tablets consist of 200 mg lopinavir and 50 mg ritonavir. Dosing is 2 tablets twice a day (total of 4 tablets a day).

MAIN SIDE EFFECT OF PEP DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Side Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenofovir</td>
<td>Headache, nausea/vomiting</td>
</tr>
<tr>
<td>Emtricitabine</td>
<td>GI side effects, usually well tolerated</td>
</tr>
<tr>
<td>Truvada</td>
<td>Headache, nausea/vomiting</td>
</tr>
<tr>
<td>Medicine</td>
<td>Side Effects</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Lamivudine</td>
<td>GI side effects, usually well tolerated</td>
</tr>
<tr>
<td>Aluvia/Kaletra</td>
<td>Diarrhea, nausea/vomiting</td>
</tr>
</tbody>
</table>