NYS-ACCP Insider

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Touro-SCCP

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Touro-Student Chapter Synopsis

Rebecca Cope, Pharm.D., BCACP

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Touro College of Pharmacy's (TCOP) American College of Clinical Pharmacy (ACCP) student chapter was founded in January 2015 with the collaboration of Dr. Nataliya Scheinberg, Dr. Charnicia Huggins, Anthony Metzger, and an ambitious first-year pharmacy student, Thu Nguyen. Thu is now a third-year student and president of the chapter. We are honored this year to have the transition of leadership to two new advisors, Dr. Rebecca Cope, Pharm.D., BCACP and Dr. Briann Luteran, Pharm.D., BCACP. TCOP's student chapter is one of 65 colleges of pharmacy in the country to be recognized by the national ACCP organization. Since its recognition, our chapter has taken great pride to be involved on the national level. The chapter possesses a steadfast dedication to upholding the mission statement and core values of ACCP. Our chapter has grown immensely since being established two years ago.

Our chapter is devoted to promoting advocacy, passion for clinical pharmacy, continuing education, the importance of patient care, and so much more. In this academic year, the TCOP-SCCP student chapter has hosted a multitude of meetings and events to encourage new members to join and illustrate the many opportunities for pursuing a career in clinical pharmacy. Our first gathering of the academic year took place in August 2016, where student members volunteered their services to Tour de Cure, a cycling event fund-raising for diabetes research. Under the instruction of Dr. Scheinberg, students offered complimentary health services at the event, including blood pressure screenings, blood glucose readings, and body mass index assessments. First-year pharmacy students were able to participate; with the goal of highlighting the positive impact a pharmacist can have on society early in their education.

In October 2016, five student chapter members packed their bags for a trip to the 2016 ACCP Annual Meeting in Hollywood, Florida. During this meeting, our students were able to attend seminars to better prepare themselves for the residency application process. The seminars included tips on how to stand out during residency interviews, how to write outstanding letters of intent, how to present an entertaining and efficient presentation and many more valuable tips to assist students in their professional career. Attendees were able to converse with program directors and learn more about different opportunities in clinical pharmacy. Students were excited to attend an awards ceremony where our charter president, Thu Nguyen, accepted a student travel scholarship. The meeting also hosted a finale of the ACCP clinical skills competition, which was both educational and entertaining.

TCOP-SCCP continues to host professional speakers each year. Students were very enthusiastic to learn about Organ Donor Awareness and Solid Organ Transplant when Dr. Nicholas Lange, a PGY-2 pharmacy resident in solid organ transplantation at New York Presbyterian Hospital, lectured on the highlights of residency. He educated our students about the importance of becoming an organ donor as he walked us through a day in the life of a solid organ transplantation clinical specialist. Our chapter was also very grateful to host Dr. Rachel Sarehkatoun, PharmD, assistant director of pharmacy operations at Kingsbrook Jewish Medical Center. She lectured on the importance of adverse drug events. We also strive to find ways to give back to our community through fundraising and volunteer work. This year, in collaboration

with Kappa Psi and SNPhA, we successfully facilitated a school supply drive called "Build-A-Backpack" and were able to present children in need with the necessary supplies for a successful school year. Our students also participated in the Making Strides Against Breast Cancer walk in Central Park and sold pink ribbons on campus, donating all proceeds to the cause.
Our chapter is still relatively young, but we are fortuitous to have an exceptional group of goal-oriented leaders. We also have an impeccably tight-knit group of student members who make a continuous effort to advocate, educate, fundraise and enhance the experiences within our chapter. Some of which have accepted residencies with prestigious hospitals and will bring their Touro College of Pharmacy spirit to their residencies next year.

-Michelle D. Rabi, Pharm.D. Candidate '20

Clinical Spotlight: Nelly Adel, Pharm.D., BCOP, BCPS
Chair of Pharmacy Practice at Touro College of Pharmacy, New York

Dr. Adel earned her Doctor of Pharmacy degree from Lebanese American University in Beirut, Lebanon in 1999. She moved to the United States for post Pharm.D. training and volunteered with an outreach program at St. Jude Children's Research Hospital in Memphis, Tennessee. She then joined The Johns Hopkins Hospital in Baltimore, Maryland, where she performed research in chemotherapy safety, as well as completed her training hours for equivalency exam and licensing in Maryland. She completed her PGY-1 residency and PGY-2 in oncology specialty at The Johns Hopkins Hospital. After residency, she worked as a clinical pharmacy specialist at Children's National Medical Center in Washington, D.C. Dr. Adel joined Memorial Sloan Kettering Cancer Center (MSKCC) in 2004. In her 12 years at MSKCC, Dr. Adel developed an ASHP accredited oncology residency program (PGY-2) and created the clinical pharmacy services.

1. What influenced you to pursue a specialty in oncology?
I decided to pursue a specialty in oncology during rotations while I completed my Pharm.D. degree. Specifically, on an internal medicine rotation, there were so many patients with cancer. This is when I realized that this topic interested me a lot. I truly believe that the oncology field is very fascinating. You always have new information. It is a very evolving field because there is so much to know about the cells, the immunity, as well as the mechanism of how tumors get started.

2. What research are you currently working on (or have recently worked on)?
I am working with P2 students on cancer immunology. I follow literature on colon and breast cancer. Those are two of my favorite cancers, as well as gastrointestinal malignancies. I also recently finalized a paper regarding cell mobilization prior to bone marrow transplant. I am also interested in leadership, and I will be presenting at the Hematology Oncology Pharmacy Association (HOPA) on how to become a successful leader in pharmacy.

3. What advice do you have for students who want to pursue a career in clinical pharmacy?
I really believe that clinical pharmacy is wonderful because you feel that you have a role, and there is so much a clinical pharmacist can do for the patients as well as the medical team in the hospital. One advice I have is to take your time to talk to patients, listen to their stories. Patients usually appreciate and trust their pharmacist.

4. Have you ever been stigmatized as a woman in your pursuit of high academic achievements?
Sure. I have so much respect for women, and I am so proud to be a woman. Some people are very intimidated in seeing a successful woman in power, who really has the vision to change things for better. That is reality and when people realize they're working with very smart women, they try to put them down. I think the key factor is for us to stand up and say "No." We are going to move on and be leaders, no matter what it takes.

5. What advice do you have for students in regards to balancing their private life with a vigorously paced career in pharmacy?

Life is not only studying or working. In order to be successful in life you have to have several components. We have to enjoy life, be hardworking, and try to balance between your hobbies, serving others, doing some volunteer work, as well as taking care of your family. The person who stays day and night at their job is not necessarily the most ideal, he/she are missing out on life. What is ideal for me is to be able to go to work and enjoy life. I truly believe in that. In my previous job, I have advised my clinical specialists to leave work at a reasonable time. The same at Touro. I believe that my faculty, the people whom I am responsible for, has to go home to do their own things not necessarily related to work. It will make you a better and well-balanced person in general. Time management is crucial; we learned it in school and in life. If you combine all these factors: serving others, taking good care of your family, as well as work, you will be a much more successful person inside and out.

-Bixia Li & Liliya Serebryakova, Pharm.D. Candidates '18

The FOURIER Trial: A Summary

Introduction:

The Further Cardiovascular Outcomes Research with PCSK9 Inhibition in Subjects with Elevated Risk (FOURIER)[1] trial investigated the clinical efficacy and safety of evolocumab when added to high- or moderate-intensity statin therapy in patients with clinically evident atherosclerotic cardiovascular disease (ASCVD). The trial was published in the *New England Journal of Medicine* in March 2017. Prior to this study, the OSLER-1 and 2 studies were performed. These open-label, randomized trials enrolled 4465 patients who had completed a phase two or three study of evolocumab. Patients were assigned to evolocumab (140 mg every 2 weeks or 420 mg monthly) plus standard therapy or standard therapy alone. Median follow-up was 11.1 months. As a result, evolocumab plus standard therapy reduced low-density lipoprotein cholesterol (LDL-c) by 61% versus standard therapy alone. Exploratory analysis showed evolocumab may also be associated with reduced incidence of cardiovascular events, warranting further research.[2]

Pharmacology:

Proprotein convertase subtilisin/kexin type 9 (PCSK9) is an enzyme which binds to the low-density lipoprotein receptor (LDLR) on the surface of hepatocytes, promoting LDLR degradation in the liver and resulting in higher blood levels of LDL-c. Evolocumab (Repatha®) is a fully human monoclonal IgG2 antibody directed against human PCSK9. Evolocumab binds to circulating PCSK9 to inhibit its binding to LDLR, preventing PCSK9-mediated LDLR degradation and permitting LDLR to recycle back to the liver cell surface. This increases the number of LDLRs available to clear LDL-c from the blood; thereby lowering LDL-c levels.[3] Evolocumab (140 mg subcutaneously every 2 weeks or 420 mg subcutaneously once monthly) is indicated as an adjunct to diet and maximally tolerated statin therapy for treatment of adults with heterozygous familial hypercholesterolemia or clinical ASCVD who require additional lowering of LDL-c. Evolocumab (420 mg subcutaneously once monthly) can also be used with other LDL-lowering therapies (e.g., statins, ezetimibe, LDL apheresis) in patients with homozygous familial hypercholesterolemia, who requires additional lowering of LDL-c.[3]

Inclusion/Exclusion Criteria:

Inclusion Criteria	Exclusion Criteria
• 40-85 years of age • Clinically evident ASCVD, defined as a history of myocardial infarction (MI), non-hemorrhagic stroke, or symptomatic peripheral artery disease (PAD) • Fasting LDL-c ≥ 70 mg/dL or a non-HDL-c ≥ 100 mg/dL • Receiving an optimized regimen of lipid-lowering	• MI or stroke within previous 4 weeks • NYHA class III or IV or last known LVEF < 30% • Known hemorrhagic stroke at any time • Uncontrolled or recurrent ventricular tachycardia • Planned or expected cardiac surgery or revascularization within 3 months after randomization • Uncontrolled hypertension • Prior use of PCSK9 inhibitor treatment other than

therapy, defined as the equivalent of ≥ atorvastatin 20 mg daily ± ezetimibe ● At least 1 major risk factor or at least 2 minor risk factors ● Examples of major risk factors include diabetes (type 1 or 2), MI or non-hemorrhagic stroke within 6 months of screening, currently daily smoker, history of symptomatic PAD if qualified by MI or stroke and age ≥ 65 years at randomization. ● Examples of minor risk factors include history of non-MI related coronary revascularization, most recent HDL-c <40 mg/dL for men or <50 mg/dL for women, most recent LDL-c ≥ 130 mg/dL or non-HDL-c ≥ 160 mg/dL prior to randomization	evolocumab or use of evolocumab < 12 weeks prior to final lipid screening ● Severe renal dysfunction (eGFR < 20 mL/min/1.73m^2 at final screening) ● Active liver disease or hepatic dysfunction (AST/ALT >3 x ULN at final screening)

Trial design:

The FOURIER trial was a randomized, double-blind, placebo-controlled, multinational clinical trial, with 27,564 patients enrolled from February 2013 - June 2015. Median follow-up was 26 months. Eligible patients were randomly assigned in a 1:1 ratio to receive subcutaneous injections of evolocumab (either 140 mg every 2 weeks or 420 mg every month per patient preference) or matching placebo with intention-to-treat analysis. The primary efficacy endpoint was major cardiovascular (CV) events (CV death, MI, stroke, hospitalization for unstable angina, or coronary revascularization). The key secondary efficacy endpoint was the composite of CV death, MI, or stroke. Safety endpoints were adverse events and development of anti-evolocumab antibodies (binding and neutralizing). It was estimated that 1630 secondary endpoint events would be required to provide 90% power to detect a 15% relative risk reduction with evolocumab compared to placebo. Cox proportional-hazards model with stratification factors as covariates was used to determine hazard ratio and 95% confidence intervals. Log-rank tests were used to calculate p-values for time-to-event analyses.

Results:

Baseline characteristics indicated a mean patient age of 63 years old, 85% white race, 75% male, and 28% currently using cigarettes. Approximately 80% of patients had previously had an MI and 70% of patients were on high-intensity statin therapy. Evolocumab lowered LDL-c levels by 15% from baseline compared to placebo, from a median of 92 mg/dL to 30 mg/dL. Other statistically significant endpoints include MI (HR 0.73, CI 0.65-0.82, p<0.001), stroke (HR 0.79, CI 0.66-0.95, p= 0.01) and coronary revascularization (HR 0.78, CI 0.71-0.86, p<0.001).

Outcome	Evolocumab (N = 13,784) No. of patients (%)	Placebo (N = 13,780) No. of patients (%)	HR (95% CI)	p-value
Primary endpoints	1344 (9.8)	1563 (11.3)	0.85 (0.79 – 0.92)	< 0.001
Secondary endpoints	816 (5.9)	1013 (7.4)	0.8 (0.73 – 0.88)	< 0.001
NNT = 74				

Critiques:

Although this trial was well-designed, it does not address cost of therapy which is a relevant concern for the use of PCSK9 inhibitors. Evolocumab costs ~$14,000/year. The Institute for Clinical and Economic Review (ICER) has initiated a "New Evidence Update" to incorporate the newly released data to adjust cost-effective benchmarks of PCSK9 inhibitors. Amgen stated that if insurance companies loosen restrictions on coverage, they will reimburse the cost of evolocumab if patients experience a CV event while taking the drug.[4]

Conclusion:

This trial provides good quality evidence that when added to statin therapy, evolocumab reduces the risk of studied CV events by 15% with the magnitude of risk reduction increasing over time. Although additional LDL-c lowering did not seem

to have an effect on CV death or all-cause mortality, achievement of very low LDL-c levels was not shown to increase the rate of adverse events. However, injection-site reactions were significantly higher in the evolocumab group compared to the placebo group (296 vs 219, respectively).

-Thu Nguyen, Pharm.D. Candidate '18, Touro-SCCP President
-reviewed by **Rebecca Cope, Pharm.D., BCACP**

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Drug Update: Xultophy®

Xultophy® (degludec 100 units/mL /liraglutide 3.6 mg/mL) is a novel combination of a long-acting basal insulin and a glucagon-like peptide-1 (GLP-1) receptor agonist, manufactured by Novo Nordisk. Xultophy® was approved by the FDA on November 21, 2016 and is indicated as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus inadequately controlled on < 50 units daily of basal insulin or ≤ 1.8 mg daily of liraglutide.[1] Xultophy® is a once daily subcutaneous injection and administered at the same time each day. Each dosage unit contains 1 unit of insulin degludec and 0.036 mg of liraglutide. It is recommended to start with insulin degludec 16 units/liraglutide 0.58 mg subcutaneously once daily and increase or decrease by 2 units every 3 to 4 days until desirable fasting plasma glucose is reached. Doses less than 16 units should be used only temporarily, and the maximum allowable daily dose is insulin degludec 50 units/liraglutide 1.8 mg.[1] It is recommended to use alternative antidiabetic products if patients require a Xultophy® daily dosage persistently <16 units or > 50 units.

Liraglutide is an acylated human GLP-1receptor agonist that acts to increase insulin release in the presence of elevated glucose concentrations, decrease glucagon secretion in a glucose-dependent manner, and delay gastric emptying, thereby reducing the rate at which postprandial glucose appears in circulation. GLP-1 regulates appetite and calorie intake, leading to an increase in satiety and possible weight loss.[2] Insulin degludec acts via specific membrane-bound receptors on target tissues to regulate metabolism of carbohydrate, protein, and fats in liver, skeletal muscle, and adipose tissue.[3] These two agents together are effective in controlling both fasting plasma glucose as well as postprandial glucose.

Xultophy® has been marketed by Novo Nordisk and approved by the FDA based on the results of the DUAL phase three clinical trials (Table 1). Over the 26 week trial period, investigators tested Xultophy® efficacy and safety in open-label randomized clinical trials.

Table 1. Xultophy® Phase Three Clinical Trial Summary

Trial	Comparator Grooup:	Average A1c reduction:
DUAL II	Insulin degludec +metformin+/- sulfonylurea/glinide	Xultophy® group=-1.9% Comparator group =-0.9%
DUAL III	GLP1-receptor agonist +/-metformin+/- pioglitazone +/- sulfonylurea	Xultophy® group=-1.3% Comparator group =-0.3%
DUAL V	Insulin glargine +metformin	Xultophy® group=-1.8% Comparator group=-1.13%

*statistically significant difference with Xultophy® observed in all trials.

In the DUAL II trial, investigators evaluated the impact of addidng the liraglutide component of Xultophy® to insulin degludec and metformin with or without a sulfonylurea/glinides. At the end of the trial, 60% of patients in Xultophy® group achieved A1c level of <7% compared to 23% in the insulin degludec group (p<0.0001).[4] In the DUAL III trial, patients who were converted to Xultophy® showed superior glycemic control as compared to patients maintained on a GLP-1receptor agonist +/-metformin+/- pioglitazone +/- sulfonylurea. Patients who converted to Xultophy® had a mean A1c reduction of 1.31%, which was superior to the mean A1c reduction of 0.3% in the GLP-1 receptor agonist group (p<0.0001). In the Xultophy® group, 75% of patients were able to achieve an A1c target of <7%, however only 36% achieved this goal in the GLP-1receptor agonist group.[5] In the DUAL V trial, Xultophy® showed noninferiority when compared to continued titration of insulin glargine + metformin. Patients in the Xultophy® group experienced a mean A1c reduction of 1.81% compared to 1.13% for the glargine group (p<0.001).[6]

Xultophy® has a boxed warning for risk of thyroid C-cell tumors and is contraindicated in patients with a personal or family history of medullary thyroid carcinoma or Multiple Endocrine Neoplasia syndrome type 2.[1] The most common adverse reactions reported in ≥ 5% of patients treated with Xultophy® include nasopharyngitis, headache, nausea, diarrhea, increased lipase and upper respiratory tract infection. Xultophy® should only be administered subcutaneously into the thigh, upper arm, or abdomen. It is recommended to rotate injection sites within the area to reduce skin thickening or pits at the injection site. Injection can be taken with or without food. Xultophy® should be stored in the refrigerator between 2°C and 8°C (36°F to 46°F) in its original carton and protected from light prior to first use. After the first use, Xultophy® can be stored either in controlled room temperature between 15°C and 30°C (59°F to 86°F) or refrigerated between 2°C and 8°C (36°F to 46°F) for 21 days, and it should be protected from direct light and heat. If a dose of Xultophy® is missed, a one-time daily dosing schedule should be resumed at the next scheduled dose. The half-lives of insulin degludec and liragutide are 25 hours and 13 hours, respectively. Steady state concentrations of insulin degludec are achieved after 3 to 4 days of administration. Administration of liraglutide 1.8 mg gives the average steady state concentration of ≈128 ng/mL over a 24-hour period. There is limited data available on the use of Xultophy® in patients with renal impairment and no specific recommendations are available for dose adjustments. Xultophy® has not been studied in combination with prandial insulin.

-Iryna Pokotylyuk, Pharm.D. Candidate '17
-reviewed by **Rebecca Cope, Pharm.D., BCACP**
Briann Luteran, Pharm.D., BCACP

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Drug Update: Odefsey®

Odefsey® (emtricitabine 200 mg/rilpivirine 25 mg/tenofovir alafenamide 25 mg), a single-tablet regimen for the treatment of HIV-1 infection, was approved by the FDA in March 2016.

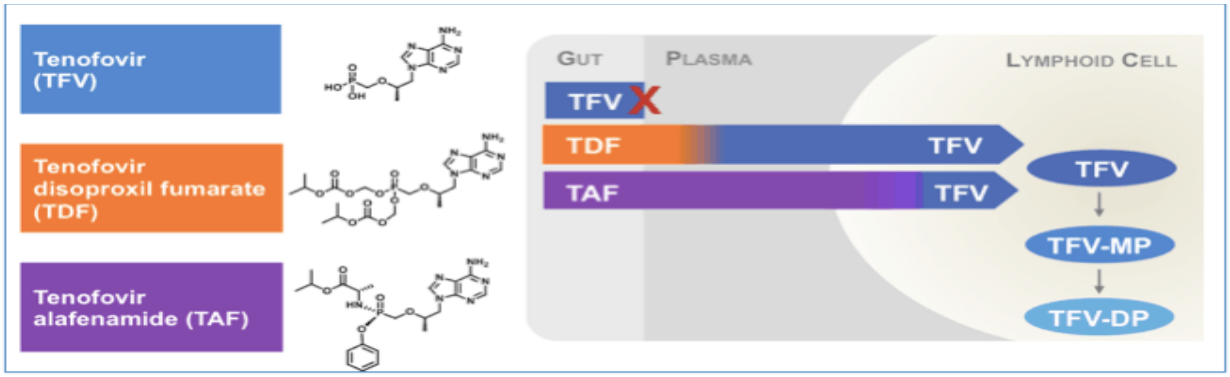
The HIV/AIDS epidemic continues to be a significant health concern worldwide, with approximately 2 million new cases of HIV occurring in 2014. In the United States, more than 1.2 million people are living with HIV infection, and only 28% have achieved viral suppression through regular use of HIV medication.[1-2] Effective treatment options which are well tolerated, minimize pill burden, and promote adherence are vital for achieving HIV viral load suppression in infected patients.

Odefsey® is a three-drug combination of emtricitabine (FTC) 200 mg, tenofovir alafenamide (TAF) 25 mg, both HIV nucleoside analog reverse transcriptase inhibitors (NRTIs), and rilpivirine (RPV) 25 mg, a non-nucleoside reverse

transcriptase inhibitor (NNRTI). Odefsey® is indicated as a complete regimen for the treatment of HIV-1 infection in patients 12 years of age and older as initial therapy in those with no antiretroviral treatment history and HIV-1 RNA ≤ 100,000 copies per mL. It may also be used to replace a stable antiretroviral (ART) regimen in those who are virologically suppressed (HIV-1 RNA < 50 copies per mL) for at least six months with no history of treatment failure.[3]

The Odefsey® combination product is similar to the single-tablet regimen Complera® (emtricitabine 200 mg/rilpivirine 25 mg/tenofovir disoproxil fumarate 300 mg), which has been available on the market since 2011. The main difference between the two products is that Odefsey® contains tenofovir alafenamide (TAF), rather than the tenofovir disoproxil fumarate (TDF) utilized in Complera®. Both formulations of tenofovir are pro-drugs, which require conversion to the active drug, tenofovir diphosphate (TDP), and appear to be equally effective in achieving HIV viral suppression. TAF, however, has not been associated with the adverse effects attributed to long-term use of TDF, such as enhanced bone density loss and renal toxicity. This benefit is attributed to the difference in plasma concentrations of the active component (TDP). While TDF is converted to TDP in the plasma, TAF is largely delivered into the lymphocytes and macrophages prior to being metabolized intracellularly to TDP. Thus, sufficient tenofovir concentration within cells can be reached at a lower dose with the TAF formulation, resulting in less drug exposure and adverse events over time.[4] Both Complera® and Odefsey® are listed as alternative regimen options in the Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents.[5]

Figure 1. Conversion of tenofovir pro-drug formulations to active drug[6]



The safety, efficacy and tolerability of Odefsey® is supported by previous clinical studies of Complera® and another TAF containing single-tablet regimen, Genvoya® (elvitegravir 150 mg/cobicistat 150 mg/emtricitabine 200 mg/tenofovir alafenamide 10 mg). Two controlled, double-blind, phase three studies recruited 1,733 treatment-naive HIV-infected patients with an estimated glomerular filtration rate (eGFR) ≥ 50 mL/min. Of these, 866 patients received elvitegravir/cobicistat/emtricitabine/**tenofovir alafenamide** (Genvoya®) and 867 received elvitegravir/cobicistat/emtricitabine/**tenofovir disoproxil fumarate** (Stribild®). The treatments regimens were non-inferior, with 92% of patients in the TAF group and 90% of patients in the TDF group having plasma HIV-1 RNA < 50 copies per mL. Patients given the TAF-containing treatment regimen had smaller increases in mean serum creatinine ($p<0.0001$), less proteinuria ($p<0.0001$), and less of a decline in bone mineral density at spine ($p<0.0001$) and hip ($p<0.0001$) after 48 weeks of therapy as compared to those given the TDF-containing treatment regimen.[7]

Odefsey® contains boxed warnings for increased risk of lactic acidosis/severe hepatomegaly with steatosis (included for any regimen containing a nucleoside analog) and post-treatment acute exacerbation of hepatitis B (HBV), which may occur in patients co-infected with HIV-1 and HBV who discontinue the drug. The most common adverse reactions to RPV are depressive disorders, insomnia, and headache. Nausea is the most common adverse event for FTC and TAF based on various clinical trials. Odefsey® is not recommended in patients with severe renal impairment (estimated creatinine clearance < 30 mL/min) and should be taken with a meal containing at least 500 calories.[3] RPV additionally requires an acidic gastric environment for absorption. Medications such as proton pump inhibitors and H_2 receptor antagonists may significantly reduce serum RPV concentrations. Thus, proton pump inhibitors should not be co-administered to a patient who is receiving Odefsey®. If H_2 receptor antagonists are co-administered, they should be given at least 12 hours before or at least 4 hours after RPV. Antacids should be given at least 2 hours before or at least 4 hours after RPV.[8]

Safe and effective treatment options for HIV-infected individuals, with minimal incidence of adverse effects even when taken for an extended period of time, remain an integral part of the fight against HIV. "New and improved" ART drug formulations such as TAF make Odefsey® a great treatment option when looking to minimize pill burden with the use of a single tablet regimen.

-Tatyana Bazarova, Pharm.D. Candidate '17
-reviewed by **Rebecca Cope, Pharm.D., BCACP**

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CDTM update in NYS

The New York State Education Department now offers a Collaborative Drug Therapy Management (CDTM) certificate allowing qualified pharmacists to practice CDTM in the state of New York. In accordance with a written CDTM agreement, pharmacists may adjust or modify patient-specific medication therapies with the goal of optimizing health outcomes. To be eligible for the certification, a pharmacist must be licensed in New York, employed or affiliated with a facility eligible to participate in CDTM as per the New York State (NYS) requirements, and fulfill certain educational or experiential standards. A pharmacist with a PharmD or MS degree must have a minimum of two years of experience, with at least one of those years being clinical experience. Pharmacists with a BS degree must have a minimum of three years of experience. Clinical experience must have been completed within the three years immediately prior to applying. In addition, all pharmacist must have completed an accredited residency program or be board certified through the Board of Pharmacy Specialties (BPS). This certification is now a requirement from the State Education Department (SED) for qualified pharmacists to engage in CDTM.

Dr. Luteran and Dr. Cope are proud to have received their NYS certification to continuing practicing CDTM at their mutual ambulatory care practice site, The Brooklyn Hospital Center in Brooklyn, NY. The Brooklyn Hospital Center has been practicing CDTM for over ten years under hospital-specific CDTM agreements. These agreements allow pharmacotherapy specialists to practice CDTM in various pharmacist-run and interdisciplinary clinics including HIV primary care, hepatitis C, anticoagulation, diabetes, heart failure, asthma, and pharmacotherapy. The Brooklyn Hospital Center is the first hospital in the state of New York to have all clinical pharmacists in its employment certified by the SED to practice CDTM.

Access to the application and additional information on becoming certified to practice CDTM in NYS may be found here:
http://www.op.nysed.gov/prof/pharm/pharmcdtm.htm

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Questions? Please contact:
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