

How Sweet It Is! Management of Diabetes Series: Risk Reduction and Management of Complications with Diabetes Part 2

Mary Lynn McPherson, PharmD, MA, BCPS, CPE

Home Study Activity Handout

4 slides per page



How Sweet It Is! Management of Diabetes Series:

Risk Reduction and Management of Complications with Diabetes Part 2

ACTIVITY DESCRIPTION

Patients with diabetes often turn to their pharmacist for assistance in smoking cessation, therefore pharmacists need to be knowledgeable in this area. Patients with diabetes also have questions about impotence and sexual intimacy, traveling with diabetes, and the management of pain.

TARGET AUDIENCE

The target audience for this activity is **pharmacists, pharmacy technicians, and nurses** in hospital, community, and retail pharmacy settings.

LEARNING OBJECTIVES

After completing this activity, the **pharmacist** will be able to:

- Describe techniques to encourage smoking cessations in patients with diabetes.
- Describe considerations for travel in patients with diabetes.
- Explain the impact of diabetes on sexual intimacy for patients with diabetes.
- List the causes of pain with diabetes and risk mitigation and management strategies.

After completing this activity, the **pharmacy technician** will be able to:

- Describe techniques to encourage smoking cessations in patients with diabetes.
- Describe considerations for travel in patients with diabetes.
- Explain the impact of diabetes on sexual intimacy for patients with diabetes.
- List the causes of pain with diabetes and risk mitigation and management strategies.

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ACTIVITY TYPE

Knowledge-Based Home Study Webcast

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Professor, University of Maryland School of Pharmacy

ABOUT THE AUTHOR

Mary Lynn McPherson, Pharm.D., MA, MDE, BCPS, CPE, CDE is Professor and Executive Director, Advanced Post-Graduate Education in Palliative Care in the Department of Pharmacy Practice and Science at the University of Maryland School of Pharmacy in Baltimore. She also serves as the Program Director for the Online Master of Science and Graduate Certificate Program in Palliative Care through the University of Maryland, Baltimore. Dr. McPherson has a master's degree in Instructional Systems Development, and a second master's degree in Distance Education and e-Learning.

Dr. McPherson has maintained a practice in hospice and palliative care (local and national) and ambulatory care her entire career. Dr. McPherson teaches extensively in the Doctor of Pharmacy curriculum on pain management and end of life care, including didactic and experiential content. She also developed one of the first and few palliative care pharmacy residencies in the U.S.

Dr. McPherson serves on the Board of the Hospice Network of Maryland, and was founding president of the American Society of Pain Educators. McPherson is a Fellow in the American Society of Health-Systems Pharmacists, the American Pharmacists Association, the American Society of Consultant Pharmacists and the American Society of Pain Educators. She is Board Certified in Pharmacotherapy, a Certified Diabetes Educator and a Certified Pain Educator. She has received many honors for her work, including the American Pharmacists Association Distinguished Achievement Award in Specialized Practice, the Maryland Pharmacists Association Innovative Practice Award, and the Maryland Society of Health-Systems Pharmacists W. Purdum Lifetime Achievement Award. Dr. McPherson has received many awards for teaching including the Presidential Citation from the Hospice and Palliative Nurses Association, Professor of the Year many times from the School of Pharmacy, University of Maryland Baltimore Founder's Week Teacher of the Year and the Robert Chalmers Distinguished Educator Award from the American Association of Colleges of Pharmacy. She has written four books, including "Demystifying Opioid Conversion Calculations: A Guide for Effective Dosing," and many book chapters and peer-reviewed articles on pain management, palliative care, and other topics.

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How Sweet It Is!
Risk Reduction and Management of Complications with Diabetes, Part 2

Faculty: Mary Lynn McPherson, PharmD, MA, BCPS, CPE

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Mary Lynn McPherson, PharmD, MA, BCPS, CPE
 Professor, University of Maryland School of Pharmacy

faculty

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Objectives




- Describe techniques to encourage smoking cessation in patients with diabetes.
- Describe considerations for travel in patients with diabetes.
- Explain the impact of diabetes on sexual intimacy for patients with diabetes.
- List the causes of pain with diabetes and risk mitigation and management strategies.
- Introduction to diabetes mellitus.
- Lifestyle modification and diabetes mellitus
- Monitoring diabetes mellitus
- Medication management Part 1
- Medication management Part 2
- Problem solving with diabetes mellitus
- Coping with diabetes mellitus
- Risk reduction and management of complications with diabetes mellitus Part 1
- Risk reduction and management of complications with diabetes mellitus Part 2**
- Diabetes disease state management

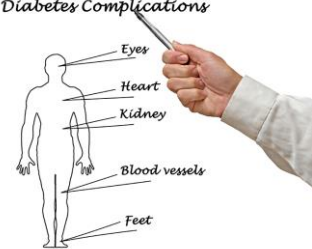
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Complications of Diabetes



- Macrovascular complications**
- AKA Atherosclerotic CV disease
 - Cardiovascular disease
 - Cerebrovascular disease
 - Peripheral vascular disease
- Microvascular complications
 - Retinopathy
 - Nephropathy
- Neuropathic complications
 - Autonomic
 - Sensorimotor

Diabetes Complications



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Smoking Statistics



- 126 million Americans are regularly exposed to secondhand smoke
- 43 million Americans smoke
- Smoking-related illness costs:
 - \$100 billion/year in medical expenses
 - \$100 billion/year in lost productivity
- Smoking is responsible for 90% lung cancer deaths in the US
- Smoking is responsible for 30% all cancer deaths
- People who smoke 1 ppd live 7 years less than nonsmokers

Saravath A. Smoking Cessation a Review Article. Res Med Eng Sci. 3(1). RMES.000054. 2018.



Smoking Statistics



Diseases in Children	Diseases in Adults
Sudden infant death syndrome	Coronary heart disease
Respiratory illness	Nasal irritation
Middle ear infections	Lung cancer
Chronic respiratory symptoms	Reproductive effects in woman (low birth weight babies)

Saravath A. Smoking Cessation a Review Article. Res Med Eng Sci. 3(1). RMES.000054. 2018.



Smoking and Diabetes/Heart Disease



- 20% of all deaths from heart disease in the US are directly related to cigarette smoking
- Risk of heart disease and heart attack greatly increases with smoking
- 1 pack per day doubles the risk of an MI compared to nonsmokers
- Environmental tobacco smoke (passive or second hand smoke)
 - 35,000 nonsmokers die from heart disease per year due to environmental tobacco smoke
- Nicotine
 - Reduces oxygen to the heart, increases HR and BP, increases blood clotting
 - Damages cells that line coronary arteries and other blood vessels



Smoking Cessation



- Set a quit date
- Change your environment
 - Get rid of all cigarettes, lighters, and ashtrays at work, home or in car
 - Avoid smokers and smoking areas
- Get the support you need
 - Tell your family, friends and coworkers you are trying to quit
 - Tell your doctor. Ask for smoking cessation medications
 - Plug into a smoking cessation program
- If you slip up, set a new quit date. TRY AGAIN!
- Use smoking cessation counseling services – twice as likely to quit!



Treatment

- Pharmacotherapy plus health education and counseling
 - Nicotine replacement therapy
 - Bupropion
 - Varenicline
- Quit-lines
- Complementary and alternative medicine
- Electronic cigarettes
- Smoking cessation policies and interventions

Saravath A. Smoking Cessation a Review Article. Res Med Eng Sci. 3(1), RMES.000054, 2018.



Sofía Hernandez made a BAD choice!

- Sofia is 44 years old Puerto Rican woman
- Diagnosed 3 years ago with type 2 diabetes
- At the time of diagnosis Sofia weighed 375 pounds
- She tried and she tried and she TRIED to lose weight, but had minimal success!
- Her BAD decision was to start smoking, thinking it would give her something to do with her hands instead of eating.
- Sofia, Sofia...what were you thinking girl? She started at 1 pack per day.
- Now, a year later, she's using two packs per day!



Sofia's physician is NOT happy with her! Not only has she NOT lost weight, now she's smoking too! What's next!??



Sofía Hernandez made a BAD choice!

- Let's get her on nicotine replacement therapy
 - Begin with step 1 (21 mg/day) for 6 weeks,
 - Followed by step 2 (14 mg/day) for 2 weeks;
 - Finish with step 3 (7 mg/day) for 2 weeks.
- Health education
- Counseling program



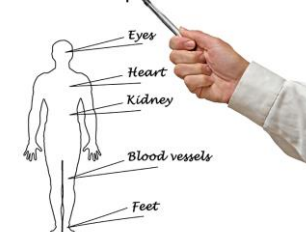
Sofia's physician is NOT happy with her! Not only has she NOT lost weight, now she's smoking too! What's next!??



Complications of Diabetes

- Macrovascular complications
 - Cardiovascular disease
 - Cerebrovascular disease
 - Peripheral vascular disease
- Microvascular complications
 - Retinopathy
 - Nephropathy
- Neuropathic complications
 - Autonomic
 - Sensorimotor

Diabetes Complications



Definition of Pain

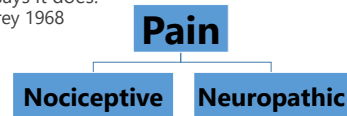


"...an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage." The International Association for the Study of Pain (1979)

Pain is subjective

"Pain is what the person says it is,
existing whenever he says it does."

Margo McCaffrey 1968



Neuropathic Pain



- Pain sustained by abnormal processing of sensory input by the peripheral or central nervous system
 - Results from injuries to CNS or peripheral nerves rather than stimulation of nerve endings
- Pain occurs because injured nerves react abnormally to stimuli or discharge spontaneously

Up to 4 million people in the United States suffer from chronic neuropathic pain conditions.



Neuropathic Pain



- Defined as:
 - "...painful syndromes that are initiated or caused by a primary lesion or dysfunction in the nervous system."¹
- Characterized by:
 - Pain and sensory symptoms that persist beyond the healing period.
 - Presence, in variable degree, of neurological sensory signs manifesting as negative and positive sensory phenomena.
 - Presence, in variable degree, of other neurological signs, including motor, manifesting as negative and positive motor phenomena or autonomic signs.²

¹Defined by International Association for the Study of Pain ²Backonja, Anesth Analg 2003



Neuropathic Pain



- Neuropathic pain can be:
 - Stimulus-evoked (hyperalgesia, allodynia)
 - Spontaneous stimulus-independent
 - Constant, intermittent, or paroxysmal
- Spontaneous pain usually described as a constant burning plus intermittent pain
 - "shooting," "electric-shock like"
 - Pain may be accompanied by spontaneous paresthesias and dysesthesias
- Stimulus-evoked pain may be caused by:
 - Light touch, pressure of clothing, wind, hot or cold temperatures



Assessing Neuropathic Pain



- **Neuropathic Pain Questionnaire – Short Form**
- Rating the most severe or disturbing pain, how it usually feels:
 - Tingling pain (0 is no tingling; 10 worst possible; present/absent)
 - Numbness (0 is no numbness; 10 worst possible; present/absent)
 - Increased pain due to touch (0 is no increase at all; 10 is greatest increase imaginable; present/absent)

Backonja, Clinical J Pain 2003



Painful Diabetic Neuropathy



- Diabetes is defined as:
 - "...a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both.
 - The chronic hyperglycemia of diabetes is associated with long-term damage, dysfunction, and failure of various organs, especially the eyes, kidneys, **nerves**, heart, and blood vessels."
- Painful diabetic neuropathy – PDN - Epidemiology
 - PDN affects 30% hospitalized diabetic patients and 20% community patients
 - Approximately 7% of patient have PDN at time of DM diagnosis; 50% within 25 years
 - About 4-5% of all patients with diabetes will have PDN



Painful Diabetic Neuropathy



- Risk factors for PDN
 - Sustained hyperglycemia
 - Duration of diabetes mellitus
 - Patient age
 - Cigarette smoking
 - Alcohol consumption
 - Hypertension
 - Height (taller patients at increased risk)
 - Hypercholesterolemia



PDN Clinical Presentation



- Complaints of pain and paresthesia
 - Burning, tingling, aching, cold sensation, lancinating pain like walking on glass, numbness, pain from normal touch
- Complaints dysesthesia
 - "buzzing," "like bugs crawling"
- Adversely effects sleep
- Epidemiology
 - PDN affects 30% hospitalized diabetic patients and 20% community patients
 - Approximately 7% of patient have PDN at time of DM diagnosis; 50% within 25 years
 - About 4-5% of all patients with diabetes will have PDN



PDN Clinical Presentation



- Negative sensory symptoms
 - Inability to feel, identify or manipulate smaller objects
 - Lose ability to judge temperature or sense painful stimuli
 - Unsteadiness in walking
- Descriptors include: asleep, "dead," numbness, tingling, prickling
- Frequently depressed or anxious



Signs and Symptoms of DSPN



	Large myelinated nerve fibers	Small myelinated nerve fibers
Function	Pressure, balance	Nociception, protective sensation
Symptoms	Numbness, tingling, poor balance	Pain: burning, electric shocks, stabbing
Examination (clinically diagnostic**)	Reduced or absent: • Ankle reflexes • Vibration perception • 10-g monofilament • Proprioception	Reduced or absent: • Thermal (cold/hot) discrimination • Pinprick sensation

Diabetes Care 2017;40:136-154



Semmes-Weinstein Monofilament – 10 g



Other tests include:
 Vibratory sensation
 Tactile circumferential discrimination
 Quantitative Sensory Testing
 Nerve Conduction Velocity
 Electromyography



Stages of PDN



Stage of neuropathy	Characteristics
No neuropathy	No symptoms or signs
Clinical neuropathy – chronic painful	Burning, shooting, stabbing pains with or without pins and needles; increased at night; absent sensation to several modalities; reduced/absent reflexes
Clinical neuropathy – acute painful	Severe symptoms as above (hyperesthesia common), may follow initiation of insulin in poorly controlled diabetes, signs minor or absent
Painless with complete/partial sensory loss	Numbness/deadness of feet or no symptoms, painless injury, reduced/absent sensation, reduced thermal sensitivity, absent reflexes
Late complications	Foot lesions, neuropathic deformity, nontraumatic amputation

Diabet Med 1998;15:508-514



Management of PDN



- **Therapeutic goal**
 - To prevent, or at least delay, progression to greater symptom severity (nerve fiber loss)
 - Achieve functional goals (e.g., able to sleep through night without pain, accomplish ADLs)
 - Prevent ulcers and amputations
- **Strategies**
 - Improve blood glucose control
 - Symptomatic management of the pain
 - Interventions to prevent onset or modify progression of PDN under investigation



Therapeutic Options - PDN



- **SNRIs** – duloxetine (Cymbalta), venlafaxine (Effexor)
- **$\alpha_2\delta$ ligands** – pregabalin (Lyrica), gabapentin (Neurontin)
- **TCA**s – amitriptyline (Elavil), desipramine, nortriptyline
- **Opioids** – tramadol, oxycodone, morphine, methadone, hydromorphone
- **Topical agents** – capsaicin (Zostrix), lidocaine (Lidoderm)



$\alpha_2\delta$ ligand – Pregabalin (Lyrica)



- Studied in 3 RCT for PDN
- Doses of 300-600 qd significantly improved pain
- AE: weight gain, dizziness, somnolence, peripheral edema, confusion
- Increase efficacy seen at 600 mg/day may be offset by increased AE
- No known drug interactions; but TID dosing



$\alpha_2\delta$ ligand – Gabapentin (Neurontin)



- Studied in one RCT vs. placebo – showed improvement in pain rating
- Treatment up to 3600 mg/d significantly improve pain severity and improve sleep
- AE: somnolence, dizziness
- Appropriate second-tier choice in patients who do not respond to, or cannot tolerate first-tier agents
- Requires titrated dosing, and multiple daily doses



SNRI – Duloxetine (Cymbalta)



- Evaluated in 2 RCTs, approved for PDN
- Recommended dose 60 mg/day
- When compared to placebo, duloxetine showed greater reduction in APS, and other measures
- AE greater with duloxetine: somnolence, constipation, nausea, dizziness, dry mouth, sweating, increased appetite, anorexia, weakness

SNRI – Venlafaxine (Effexor)



- Studied in one RCT for PDN, and compared vs. imipramine for treatment of painful neuropathies
- Doses of 150-225 mg/day of venlafaxine ER significantly reduced pain intensity compared to placebo (and vs. lower dose venlafaxine)
- Most common AE: nausea, somnolence, dyspepsia, insomnia, sweating, impotence

TCAs (amitriptyline, desipramine, nortriptyline)



- Widely used to treat neuropathic pain (not FDA approved however)
- No difference in efficacy among TCAs
- Amitriptyline best studied; RCT showed benefit
- Desipramine (vs. placebo, and vs. amitriptyline) – > placebo, = amitriptyline
- AE: dry mouth, constipation, dizziness, blurred vision, cardiac arrhythmias, urinary retention

Opioids – Oxycodone CR (generic)



- Generic long-acting oxycodone studies in 2 RCT for PDN: oxycodone reduced pain (average and worst rating)
- AE: constipation, somnolence, nausea, dizziness, pruritus, vomiting, dry mouth
- Be mindful of possible warning signs of abuse
- Consider use of an opioid agreement

Tramadol (Ultram)



- Centrally acting analgesic; weak inhibitor of NE/5HT reuptake and low affinity for mu receptor
- Shown to improve pain and physical functioning in PDN (did not improve sleep)
- AE: nausea, constipation, headache, somnolence, sweating, seizures
- Second-tier agent (AE and four times daily dosing, abuse/dependence concerns)

Topical Agent – Capsaicin (Zostrix)



- Active principle of hot chili pepper
- Causes the release and depletion of substance P; reduces/abolishes transmission of painful stimuli from peripheral nerve
- More effective than placebo vehicle
- AE: stinging, burning (especially early in tx)

Topical Agent - Lidoderm



- Commonly used in primary care to treat painful conditions
- Evaluated in a RCT with good effect
 - Pain ratings
 - Quality of life
- AE no difference compared to placebo; most commonly reported AE rash and pruritus
- FDA-approved for 12 hours on, 12 hours off

What do the guidelines recommend?



- **American Diabetes Association**
 - Pregabalin or duloxetine (FDA approved indication)
 - Gabapentin or venlafaxine
 - Tricyclic Antidepressants (TCA)
 - Opioids, tramadol, tapentadol

Other consensus guidelines



- American Academy of Neurology, American Association of Neuromuscular and Electrodiagnostic Medicine, American Academy of Physical Medicine and Rehabilitation
- **Level A** – pregabalin
- **Level B** – venlafaxine, duloxetine, amitriptyline, gabapentin, valproate, opioids (morphine, tramadol, oxycodone), capsaicin
- **Not recommended** – oxcarbazepine, lamotrigine, lacosamide, clonidine, pentoxifylline

<https://www.aan.com/Guidelines/Home/GetGuidelineContent/480>



Just for fun...what do you think?

This is NOT a poll question.



- MJ is a 74 year old woman with PDN. Her physician prescribed duloxetine (Cymbalta) and her pain improved about 20%. Addition of which of the following agents would be an example of IRRATIONAL polypharmacy?
 - A. desipramine
 - B. gabapentin
 - C. oxycodone CR
 - D. capsaicin



Foot Care for PDN Patients



- Clean feet daily using warm water and mild soap; avoid soaking feet; dry with soft towel; carefully dry between toes.
- Inspect feet and toes twice daily for cuts, blisters, redness, swelling, calluses; use a mirror (try placing on floor) to inspect bottoms of feet if movement is limited.
- Moisturize feet with lotion, but avoid area between toes.
- After cleaning, file corns and calluses gently with pumice stone.
- Cut toenails regularly to the shape of your toes and file edges
- Always wear shoes or slippers to protect feet from injuries; wear thick, seamless socks
- Wear well-fitted shoes that allow toe movement; break in new shoes gradually
- Before wearing shoes, check inside for tears, sharp edges, or objectives that might cause injury
- Inform your physician if you notice any changes in the appearance of or any unusual sensations in your feet
- Other information available at <http://ndep.nih.gov/materials/pubs/feet/feet.htm>

National Diabetes Information Clearinghouse. Mayo Clin Proc 2006;81(suppl 4):53-511



Diabetes and Sexual Concerns



- Diabetes is a common cause of sexual problems for both men and women
- Affects 75% of men and 50% of women
- Sexual response depends on:
 - Normal release of hormones
 - Adequate blood flow
 - Proper nerve function
- Sexual dysfunction can result in frustration, anxiety, depression



Male Sexual Dysfunction



- Most common manifestation is erectile dysfunction
- Causes can include fatigue, stress, depression, medication, pelvic trauma, and diabetes
- If diabetes is the cause – main problems usually involve circulation and nerve function
 - Also low levels of the male sex hormone testosterone
- Drug-induced
 - SSRIs, MAO inhibitors, TCAs, benzodiazepines, anticonvulsants, ACE inhibitors, beta-blockers, calcium channel blockers, H2 blockers, miscellaneous BP meds (spironolactone, HCTZ, clonidine, methyldopa)



Male Sexual Dysfunction



- Treatment
 - Healthy eating – lose weight (obesity is related to low testosterone; fat produces estrone/estradiol, which promotes female sex characteristics)
 - Being active
 - Monitoring – blood glucose, A1c
 - Reduce risks
 - Stop smoking
 - Get enough rest
 - Healthy coping
 - Less stress, seek evaluation and treatment for anxiety and depression, counseling
 - Medications and devices



Male Sexual Dysfunction



- Medications for male impotence
- PDE-5 inhibitors (phosphodiesterase-5 inhibitors)
 - Sildenafil (Viagra), tadalafil (Cialis), vardenafil (Levitra)
 - MOA – allow more blood flow into the penis to produce a firmer erection
 - WILL NOT WORK with low testosterone
- Yohimbine
 - Comes from bark of an evergreen plant; increases blood flow; only mildly effective, use is controversial
- Male enhancement supplements
 - L-arginine, Tongkat Ali, Horny Goat Weed, Tribulus Terrestris Extract, C-nidium Monnier



Male Sexual Dysfunction



- Autoinjection of alprostadil (Caverject, Edex) – injection given directly into the base of the penis
 - Increases blood flow; erection within minutes, lasts 30-60 minutes
 - Pain, bruising, scarring at injection site, priapism (> 4 hours) can occur
- Intraurethral suppositories
 - Tiny pellets of alprostadil (Muse)
 - Inserted into urethra (opening in the tip of the penis) using applicator
 - Insert just after urination to provide lubrication
 - Body heat melts it; walk or stand for next 10 minutes (lying down causes dizziness)
 - MOA – dilates arteries, increasing blood flow, erection in 10 minutes



Male Sexual Dysfunction



- Vacuum suction devices
 - Create a vacuum to pull blood into the penis
 - Once erection is achieved, a silicone rubber ring is rolled over the device onto the base of the penis to trap blood flow
 - Ring can only remain for no more than 3 minutes
- Testosterone replacement
 - Injection, topical gel, buccal tablet, skin patch
- Penile Prosthesis Surgery
 - Last resort, \$20,000 surgery, recovery takes 4-8 weeks, 90% success rate
 - Risky procedure due to infection; lasts 15 years



Female Sexual Dysfunction



- Causes – fatigue, stress, depression, medications
- When due to diabetes, causes involve circulation and nerve function
- Symptoms of sexual dysfunction in women include:
 - Vaginal dryness (can cause pain with intercourse), diminished sensation, difficulty becoming aroused, difficulty achieving orgasm
- Treatment
 - Healthy coping – manage stress, anxiety, depression; counseling
 - Monitoring BG and A1c
- DC medications that can cause vaginal dryness; vaginal lubricant



Remember Fred Flintstone?



- Fred is a 72 year old man, whose wife passed away about three years ago.
- Fred was diagnosed with pre-diabetes two years ago, and he didn't take good care of himself.
- He hasn't been to his PCP in over a year.
- But Fred found a good woman and they got married last year.
- Wilma isn't happy though – seems Fred has lost that lovin' feeling!



Remember Fred Flintstone?



- Specifically Fred cannot achieve an erection
- PDE-5 inhibitors (phosphodiesterase-5 inhibitors)
 - Sildenafil (Viagra), tadalafil (Cialis), vardenafil (Levitra)
 - MOA – allow more blood flow into the penis to produce a firmer erection
 - WILL NOT WORK with low testosterone
- Check Fred's testosterone; select a PDE-5 inhibitor



Traveling with Diabetes



• You can go on vacation, but you can't go on vacation from your diabetes

- Plan for meals
- Carry a doctor's letter
- Pack a carry-on
- Mention your diabetes
- Disconnect your pump
- Prepare for emergencies
- Indulge wisely



www.diabetesforecast.org/2013/jun/25-top-tips-for-travel-with-diabetes.html



Traveling with Diabetes



• Adjust insulin – VoyageMD.com

The information below is for guidance only. You should to contact your healthcare providers for more detailed information prior to your journey

Baltimore Washington Intl (United States) Time	Insulin Schedule	London Heathrow (United Kingdom) Time
18-02-2018 22:00	Night before flight, normal dose of Long-acting background insulin	19-02-2018 03:00
19-02-2018 10:45	Test your blood glucose levels before take off.	19-02-2018 15:45
11:45	Take-off. Fast-acting meal-time insulin with in-flight meal	16:45

www.diabetesforecast.org/2013/jun/25-top-tips-for-travel-with-diabetes.html



Traveling with Diabetes



- Ask about emergencies
- Be aware of alcohol
- Keep medications and supplies cool
- Consider injections instead of a pump
- Pack supplies
- Store insulin properly
- Deal with dirty hands
- Bring plenty
- Do your homework



www.diabetesforecast.org/2013/jun/25-top-tips-for-travel-with-diabetes.html



Traveling with Diabetes



- Visit the doctor
- Learn the language
- Talk to your insurance provider
- Buy travel insurance
- Note local hospitals and pharmacies
- Get to know the embassy



www.diabetesforecast.org/2013/jun/25-top-tips-for-travel-with-diabetes.html



Questions



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Exam Questions:

1. Which of the following is CORRECT regarding smoking in people with diabetes?
 - a. Increases the risk of painful diabetic neuropathy
 - b. Increases the risk of a heart attack
 - c. A and B are both correct
 - d. Neither A nor B are correct
2. True or False: Second-hand smoke increases the risk of smoking-related adverse health outcomes.
 - a. True
 - b. False
3. For a patient smoking more than 10 cigarettes per day, what would be the appropriate nicotine replacement therapy patch?
 - a. 21 mg/day
 - b. 14 mg/day
 - c. 7 mg/day
 - d. None of the above
4. True or False: Neuropathic pain is due to damage to the nervous system itself – peripheral or central.
 - a. True
 - b. False
5. Which of the following is a first-line recommendation for the treatment of painful diabetic neuropathy?
 - a. Pregabalin
 - b. Tapentadol
 - c. Lacosamide
 - d. Oxycodone
6. Tricyclic antidepressants cause which of the following side effects?
 - a. Sedation
 - b. Orthostasis
 - c. Anticholinergic effects
 - d. All of the above

7. Tramadol has been known to cause which of the following?
- a. Lowers the seizure threshold
 - b. May cause serotonin syndrome
 - c. May cause hypoglycemia
 - d. All of the above
8. The biggest side effect from capsaicin is which of the following?
- a. Feeling of coldness
 - b. Intense burning at application site
 - c. Hair growth at application site
 - d. Loss of sensation at application site
9. When contemplating a PDE-5 inhibitor to treat male impotence, which of the following should be checked first?
- a. Estrogen level
 - b. Prolactin level
 - c. Testosterone level
 - d. Alcohol level
10. Why should people with diabetes take their supplies on the airplane as a carryon instead of checking them with their luggage?
- a. Patient may need one of their supplies during the flight
 - b. It gets really cold in the luggage compartment and medications may be adversely affected
 - c. Luggage may get lost!
 - d. All of the above