

# MODULE

# 7



*Gustavo Andrade*

# LEARNING ABOUT MEDICATIONS

## I. MEDICATIONS – WHY AND HOW?

### A. What Are Medications For?

1. Lowering blood glucose
2. Lowering blood pressure
3. Lowering cholesterol
4. Other conditions

### B. Medications for Diabetes

1. There are different medications for lowering blood glucose
  - a. Injected
  - b. Oral
2. Each person responds in different ways and requires different combinations of medications. No one should ever share medications with other family members or friends.



*Alexander Rath*

## C. How Do Medicines Work?

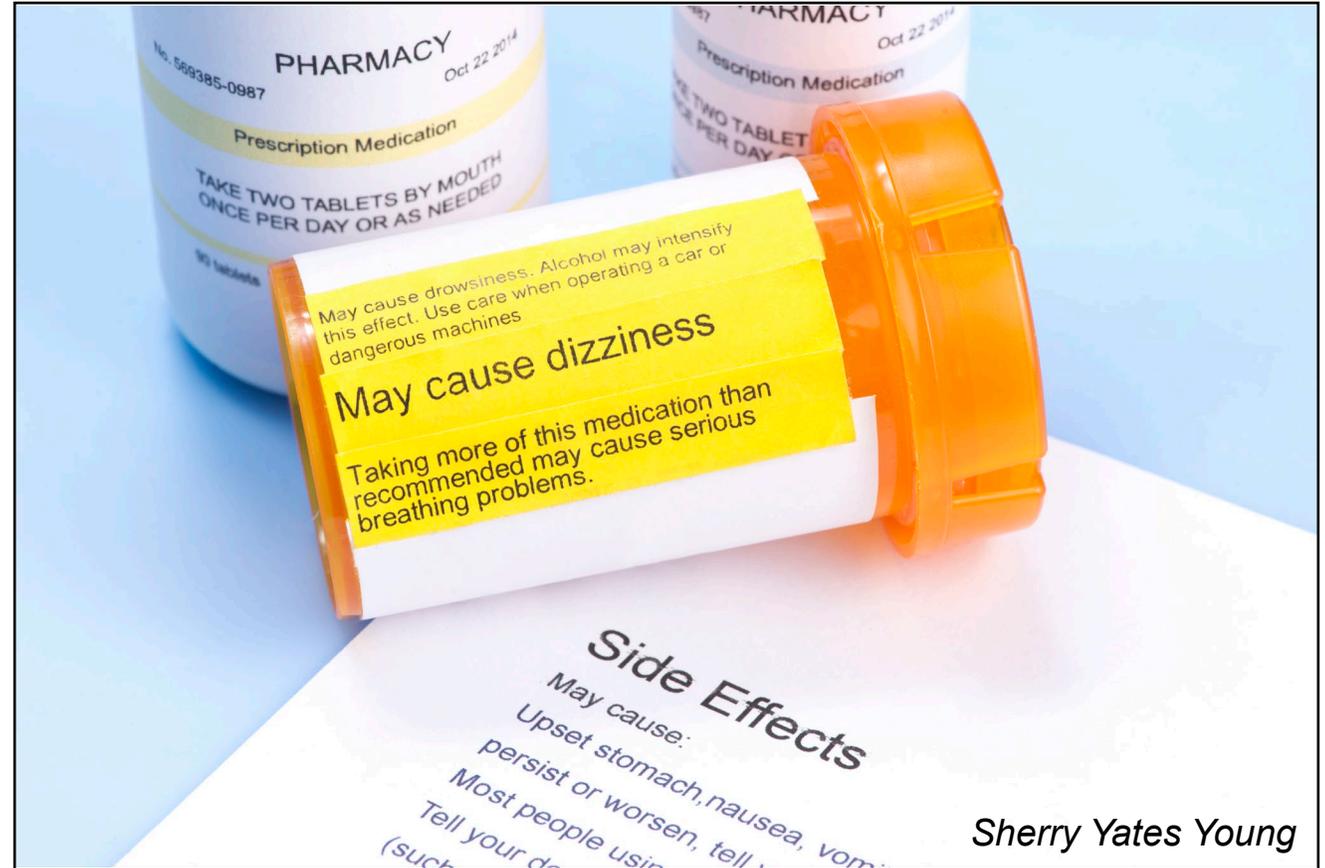
Medicines act in different organs of the body, in different ways:

NAME	Acarbose	Sulfonylureas, meglitinides, exenatide	Amylin agonists	Metformin	Thiazolidinediones	Dopamine agonists	SGLT-2 inhibitors
HOW DOES IT WORK	Intestines: slow down absorption of sugars	Pancreas: increase production of insulin	Pancreas: decrease glucagon production	Liver: slow down release of glucagon	Muscles: "burn" glucose	Brain: change circadian rhythm; increase insulin sensitivity	Kidneys: increase excretion of glucose in urine

## D. Medication Labels

People must learn to read medication labels:

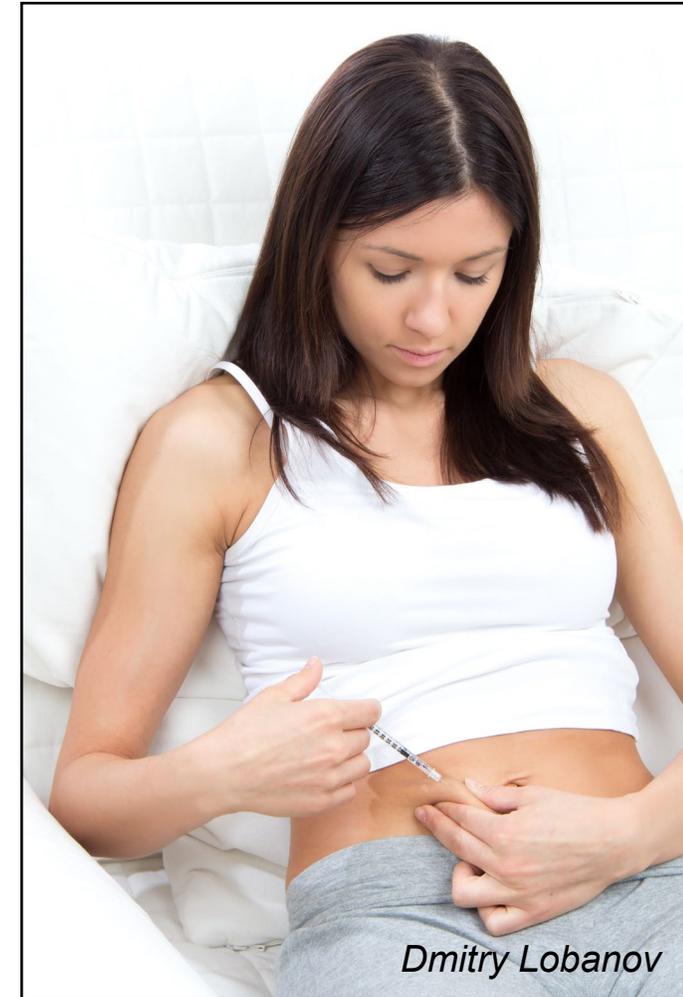
1. Name of medicine: generic, brand name
2. Doses: 2 mg, 100 mg, 500 mg
3. Refills
4. Date of expiration
5. Storage
6. Side effects



## II. INSULIN

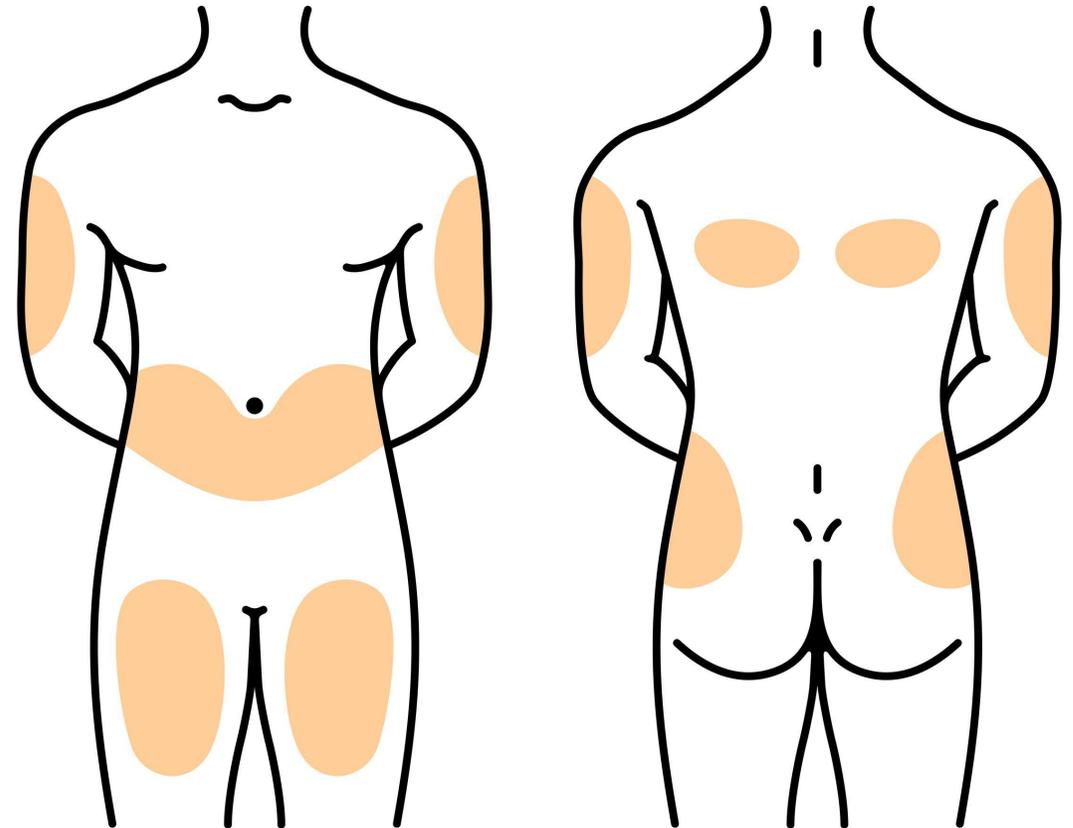
### A. Facts About Insulin

1. Insulin is a natural hormone, but also is a medicine.
2. Should be prescribed by a doctor.
3. Injected
4. Speed of effect (slow, intermediate, fast, long-acting) varies by type of insulin.
5. Too much insulin produces hypoglycemia → coma or death.



## B. Injecting Insulin

1. Insulin must be injected under the skin in a different area each week.
2. The site of injection, within each area must be changed daily.
3. When injecting insulin, people with diabetes must be careful and clean.



*Denis Barbulat*

## III. RECOMMENDATIONS FOR PARTICIPANTS

### A. Make a List of Questions About Medications to Ask the Doctor

1. Where do they work?
2. What side effects do they have? When do they disappear? Will they have an adverse interaction with my other medications?
3. Do I have to get tests to see if they are affecting my liver?
4. What are the long-term effects?
5. Can I take it on an empty stomach?
6. What should I do if I forget to take it?
7. Can I drink alcohol with it?
8. Will my herbal remedies change the effects of the medications?

### **B. Make a Record of Your Medications**

People with diabetes should:

1. Write down all medications they are taking.
2. Keep instructions clear.
3. Bring a list of all medications to the doctor and when traveling.
4. Tell your doctor about your use of herbal remedies.

### **C. Treatment for Smoking Cessation**

1. Combining counseling and medication is the most effective clinical treatment for tobacco dependence.
2. FDA-approved medications to help patients quit smoking:
  - a. Nicotine replacement therapy (NRT) – nicotine gum, patch, lozenge, nasal spray, inhaler.
  - b. Partial nicotine receptor agonist – Varenicline
  - c. Psychotropic agent - Bupropion

### IV. ROLE OF THE HEALTH PROMOTER

1. Never recommend medications.
2. Assess use of herbal remedies and their effects.
3. Facilitate access and purchase – benefits assessment, help with procedures, act as gate keepers.
4. Remind patients that medications are always part of a total self-management strategy, particularly exercise and meal planning.
5. Support ‘adherence’ – understand the many barriers.
6. Prepare patients to talk to clinicians and pharmacists.

### V. QUESTIONS FOR PARTICIPANTS: MEDICINES AND SELF-MANAGEMENT

**“Are you having trouble taking your medication(s)?”**

**“What challenges do you have in getting them?”**

**“Do you need reminders?”**

**“Besides medication, what else do you need to do to control your diabetes?”**

This concludes Module 7: Learning About Medications. For more information on this topic, please see the curriculum.



## REFERENCES

Abbate, S.(2003). Expanded ABC's of diabetes. *Clinical Diabetes*, 21(3):128-133.  
<https://doi.org/10.2337/diaclin.21.3.128>.

American Association of Clinical Endocrinologists and American College of Endocrinology. (2015). Clinical practice guidelines for developing a diabetes mellitus comprehensive care plan-2015. *Endocrine Practice*, 21(Suppl 1), 1-87.

American Diabetes Association. (2004). Insulin Administration. *Diabetes Care*, 27, S106 - S107.

American Diabetes Association. (2015). 4. Foundations of care: Education, nutrition, physical activity, smoking cessation, psychosocial care, and immunization. *Diabetes Care*, 38(Suppl. 1), S20-S30.

Aye, M. M., & Atkin, S. L. (2014). Patient safety and minimizing risk with insulin administration-role of insulin degludec. *Drug Healthcare and Patient Safety*, 6, 55-67.

Buse, J. B., Nauck, M., Forst, T., Sheu, W. H., Shenouda, S. K., Heilmann, C. R., ... & Porter, L. (2013). Exenatide once weekly versus liraglutide once daily in patients with type 2 diabetes (DURATION-6): a randomised, open-label study. *The Lancet*, 381(9861), 117-124.

Diabetes Prevention Program Research Group. (2015). Long-term effects of lifestyle intervention or metformin on diabetes development and microvascular complications over 15-year follow-up: the Diabetes Prevention Program Outcomes Study. *The Lancet Diabetes & Endocrinology*, 3(11), 866-875.

Goud, A., Zhong, J., & Rajagopalan, S. (2015). Emerging utility of once-weekly exenatide in patients with type 2 diabetes. *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy*, 8, 505.

Gururaj Setty, S., Crasto, W., Jarvis, J., Khunti, K., & Davies, M.J. (2016). New insulin and newer insulin regimens: A review of their role in improving glycaemic control in patients with diabetes. *Postgraduate Medical Journal*, 92(1085), 152-164.

Mitchell, V. D., Porter, K., & Beatty, S. J. (2012). Administration technique and storage of disposable insulin pens reported by patients with diabetes. *The Diabetes Educator*, 38(5), 651-658.

Qaseem, A., Humphrey, L. L., Sweet, D. E., Starkey, M., & Shekelle, P. (2012). Oral pharmacological treatment of type 2 diabetes mellitus: A clinical practice guideline from the American College of Physicians. *Annals of Internal Medicine*, 156(3), 218-231.

Wallia, A. & Molitch, M.E. (2014). Insulin therapy for type 2 diabetes mellitus. *The Journal of American Medical Association*, 311(22), 2315-2325.