INJECTING INSULIN – a video for patients

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1. Patient Interview, on-camera	Patient: "I still remember the day my doctor told me I would have to take insulin injections every day. As an ambulance driver, I work rotating shifts, and I eat on the run. So setting up a routine and sticking to it? That was tough. But I got used to it. What I did was …"
2. Patient Interview, on-camera	Patient: "I couldn't believe it when my doctor told me that my diabetes pills by themselves were no longer working. So in addition to my pills, I started an taking insulin twice a day. At first I felt overwhelmed, but then I found ways to manage, and now I hardly think of it…"
3. Patient in daily life: fixing food in kitchen, pulling car out of driveway, at work, or similar	Insulin has been prescribed for you. It's common to feel scared. Giving yourself injections will now become a part of your daily life.
4. Stock LS of crowded city street	You are not alone. More than one-and-a-half million Americans give themselves insulin injections every day.
5. Doctor and patient in conference; insulin bottle, syringe on table between them	Learning how to give yourself insulin injections can be challenging. Your diabetes care team is here to help you gain the skills and confidence to do it.
6. CG Main Title graphic: Injecting Insulin	*Music*
7. <u>*CG:*</u> This program will show you: - How to use a syringe and insulin pen - How to inject a single dose and a mixed dose of insulin - How to dispose of your needles and syringes	This program will show you how to inject a single dose and a mixed dose of insulin, how to use a syringe and an insulin pen, how safely dispose your needles and syringes, and how to care for your insulin.

- How to care for your insulin	
8. CG Section Title Graphic: How Insulin Works	*Music.*
9. Animation: Metabolism Story	To understand how diabetes medications work to control your blood glucose, let's see what happens when you eat.
10. Animation: Metabolism Story	Most of the food we eat changes to glucose that enters the bloodstream. This causes our blood glucose level to rise.
11. Animation: Metabolism Story	As the level of blood glucose rises, the pancreas gland releases insulin. Insulin makes it possible for our cells to take in blood glucose.
12. Animation: Metabolism Story	The glucose is used for energy or stored in the cells for later use. As the glucose moves out of the bloodstream, the blood glucose level drops.
13. Animation: Metabolism Story	However, your body continues to rely on the energy that glucose supplies. In response to the lowered blood glucose level that occurs about four hours after our last meal, our pancreas releases the hormone glucagon.
14. Animation: Metabolism Story	Glucagon causes the liver to release stored glucose into the bloodstream. This keeps our blood glucose level from dropping too low until the next time we eat. As the blood glucose level rises from the work of glucagon and the liver, the pancreas gland continues releasing insulin, moving the glucose from the bloodstream into our cells to supplying our body with necessary energy.
15. Animation: Metabolism Story	Normally, through the release of insulin and glucagon, the body keeps the blood glucose level in the healthy range of 60 to 120 mg./dl.

16. Animation: Metabolism Story	But when a person has type 2 diabetes, this process is out of balance and too much glucose builds up in the bloodstream. This is called hyperglycemia, or high blood glucose.
17. Animation: Metabolism Story	The causes of type 2 diabetes vary from person to person.
18. Animation: Metabolism Story	Your cells may have trouble using insulin, so they can't take in glucose. This is called insulin resistance.
19. Animation: Metabolism Story	Or your pancreas may not make enough insulin...
20. Animation: Metabolism Story	Or the liver could keep releasing stored glucose into your bloodstream...
21. Animation: Metabolism Story	Or your pancreas may not supply insulin soon enough after you eat, causing your blood glucose level to rise too high.
22. Insulin bottle	Medications such as insulin can remedy these conditions, keeping your blood glucose in a good range.
23. CG Section Title Graphic: Using the Syringe	*Music*
24. CU of syringe on tabletop	The most common insulin injection device in use today is the disposable syringe.
25. Pull out to reveal other devices	Other insulin injection devices include the insulin pen, insulin pump, and the insulin jet injector.
26. Opening up woman's purse to reveal syringe kit tucked neatly inside	It's important to know how to use the syringe, even if you don't choose it as your main method of injecting. The syringe makes an excellent backup, should there be a problem with your main injection device.

27. Tabletop of syringe, alcohol swabs, insulin bottle, Sharps container. Diabetes care team indicating them.	Before starting, you'll need to get all your materials ready. This includes the syringe, alcohol swabs, a Sharps container, and your prescribed insulin. If you need to inject a mixed dose, then have both of your insulin bottles ready.
28. Patient Interview, on-camera	Patient: "Well, the first time, I was in the hospital, and they were teaching me how. So the nurse came in and she said, 'It's your turn, you do it.' I said, 'I can't do this.' She said, 'Yes, you can!' So it took me a couple of seconds, but then I did it, you know, and I said, 'Well, this is not as bad as I thought it was.' She said, 'I told you it wasn't.' So, I've been doing it ever since."
29. CU of needle and strand of hair, side by side. (Or person injecting fearlessly, happily.)	Using a syringe is probably a lot more comfortable than you think. Today's syringes are almost painless. The needles are *very* tiny—in fact just a little wider than a human hair.
30. CU of three U-100 syringes, one of each size.	The U-100 is the standard insulin syringe used in the United States. It comes in different sizes, including the 100-unit syringe, the 50-unit syringe, and the 30-unit syringe. You'll want to choose the syringe that's closest to—but higher than—the number of insulin units that you will be injecting. For example, if you must inject 40 units, then use the 50-unit syringe.
31. Several syringes	If your treatment plan requires that you inject several different kinds of insulin, you may want to have more than one size syringe on hand.
32. Diabetes team member taking apart syringe, pointing out parts. (Or a diagram with callouts showing parts.)	Let's look more closely at the syringe. The *barrel* holds the insulin. The *plunger* pushes the insulin out, and also shows how much insulin is in the syringe. The *needle*, which should never be touched before injection, forms the end of the syringe.

33. *CG:* Single Dose – one type of insulin Mixed Dose – two types of insulin [include graphic of bottles]	Some people use just one type of insulin. This is called a single dose injection. Others must combine different types of insulin. They use a mixed dose injection. The only real difference between a mixed dose and a single dose is the way you prepare the syringe. Everything else is exactly the same.
34. Diabetes care team member interview, on-camera	Care Team Member: "Having to inject yourself with several insulins doesn't mean your diabetes is worse then someone who only needs one type of insulin. People are just different."
35. Person washing, drying hands. CG: Single Dose Injection	First, we'll go over how to inject a single dose of insulin. Before beginning, wash your hands thoroughly with soap and warm water and dry them on a clean towel.
36. Tabletop showing clear and cloudy insulin bottles	Insulin comes in two different forms: clear and cloudy. Cloudy insulin must be mixed before use; clear insulin does not.
37. Rolling cloudy insulin in hands to mix	If your insulin is cloudy, mix it thoroughly by gently rolling the bottle in your hands. Turn it over and make sure there is no powder on the bottom. If there is, continue to mix. But don't shake the bottle—this can damage the insulin or create air bubbles.
38. Wiping cap with alcohol swab	Clean the top of the bottle with alcohol. Now, you are ready to draw the insulin.
39. Filling syringe with air	First, fill the syringe with air by pulling the plunger back to the number of units of insulin you'll need.
40. Poking needle into insulin bottle	Inject air into the insulin bottle.
41. Bottle upside-down, plunger being pulled back.	Turn the bottle upside down. Make sure the needle is covered with insulin. This prevents air bubbles from getting into the syringe.

42. Push in to CU of digits on barrel.	Pull the plunger back to the correct number of insulin units.
43. CU of air bubbles	Now check the syringe for air bubbles. Air bubbles are not dangerous, but they take up space and can cause you to measure the wrong dose.
44. Pushing insulin back into bottle and refilling.	If you see any large air bubbles, push the insulin back into the bottle and fill the syringe again.
45. Putting syringe down on cap	Put the syringe down. Make absolutely sure the needle doesn't touch anything.
46. Person reaching into refrigerator for insulin CG: Mixed Dose Injection	*Music*. Now, what if you have to inject a mixed dose of two different types of insulin?
47. Person preparing to inject, handling insulin bottles.	Mixed doses sometimes come already combined in a single bottle. However, sometimes treatment plans require *you* to mix two types of insulin yourself. Or, in some cases you must inject one type of insulin followed by another. Your diabetes health care team will let you know what you need to do.
48. Tabletop of bottles of short-acting and long-acting insulins, showing labels	If you've been prescribed a mixed dose, you will most likely have to combine two kinds of insulin in one syringe. This will usually mean combining a short-acting insulin with a longer-acting insulin.
49. Line graph with bell curves and callouts showing actions of both short- and longer-acting insulins (done)	Short-acting insulins lower blood glucose *quickly*, whereas longer-acting insulin lower blood glucose slower and for a longer time.
50. Graphic of hands writing down figures on paper. (done)	Before injecting, you'll need to do a little math. Write down the number of units of short-acting insulin you need to take. Let's say you need 5. Then, write down the number of units of longer-acting insulin you need to take. That might be 15 units.

	Add both figures together to get the total number of units you'll be injecting. In this case, 20.
51. Washing hands	Now, before you begin, wash your hands thoroughly with soap and warm water and dry them on a clean towel.
52. Wiping bottles	Wipe the tops of both insulin bottles with an alcohol swab.
53. Syringe, drawing in 15 units of air and injecting that into the bottle of longer-acting insulin. Syringe is removed.	Push 15 units of air into the bottle of longer-acting insulin. Do not begin drawing the insulin yet. Instead, pull the syringe straight out.
54. Syringe, drawing in 5 units of air and injecting that into the bottle of shorter acting insulin. Bottle is turned upside down, and 5 units is drawn.	Now draw in 5 units of air and inject it into the bottle of short-acting insulin. This time, leave the needle in and turn the bottle upside-down so that the insulin completely covers it. Then draw out the correct amount of insulin—5 units. Be sure to check for bubbles. If you see bubbles, then push the insulin back into the bottle and start over again.
55. Mixing insulin	Now for the longer-acting insulin. First, mix it gently.
56. Syringe inserted into longer acting insulin and bottle turned upside down. Plunger is pulled back to 20 units.	Insert the needle into the longer-acting insulin bottle and turn it upside-down, making sure the needle is completely covered with insulin. This will help keep out air bubbles. Carefully pull the plunger back to the total number of units you want to inject—20 in this case. You need to be especially careful at this point, because if you draw up too much insulin, or see air bubbles in the syringe, you cannot not push the mixture back into the bottle—you must dispose of the syringe and start over.
57. Person finishing mixing insulins	It may seem complicated now, but with a little practice, preparing a mixed dose of insulin will become second nature to you.

58. Patient interview, on-camera	Patient interview: "Mixing insulin is easy. I do it every morning. I carry it like this…"
59. Person reaching for a syringe. (Or graphic of body w injection sites.) CG: Where to Inject	*Music*
60. Patient interview, on-camera	Patient: "I didn't have a clue of where I should inject. But I talked to my doctor. He explained to me exactly what we were trying to achieve with my insulin injections, and where we'd get the best results. He really did a good job of laying it out for me in a way I could understand."
61. Graphic cross-section of skin showing layer of muscle, fat and skin. Highlight or point to the fatty tissue to indicate where to inject	Insulin should be injected into the layer of fatty tissue between the skin and the muscle. This ensures it will be properly absorbed.
62. Graphic of body showing injection sites: abdomen, arms, thighs, buttocks	Where you inject can make a difference in how fast the insulin will go to work. The recommended injection sites are: the abdomen, the backs of the arms, the tops or sides of the thigh, and the buttocks.
63. Highlight abdomen injection site	Insulin will enter the bloodstream the fastest when injected in the abdomen, just above the waist.
64. Highlight arm injection site	Insulin is also absorbed quickly at the backs of the arms. This is the second fastest site, after the abdomen.
65. Highlight thigh injection site	Insulin is absorbed slightly slower when injected in the thigh. The best site is along the top or outer surface of the thigh, three to four inches above the knee.
66. Highlight buttocks injection site	Injecting into the buttocks produces the slowest absorption. The best place to inject here is just below the waistline, in back of the hip bone.

67. *CG:* Insulin injection sites: Waist – fastest insulin absorption Arms – a little slower Thigh – a little slower still Buttocks – slowest	This list summarizes the relative speeds that insulin is absorbed at each site. You can inject at any of these sites. Work with your diabetes care team to find the injection site that is best for you.
68. Graphic of body with grids showing injection sites Lower-third CG bar: Site Rotation	To keep skin, muscle and fat healthy, inject into a different spot *each time* you give yourself an injection. This is called site rotation. It's a good practice to use all of the points at one site before moving on to the next. Using the same point of injection too often can cause tissue changes that might interfere with the absorption of insulin.
69. Diabetes care team member consultation: pointing to patient's waist to indicate the direction; or grid graphic showing points moving down	One method of site rotation is to start in a corner of the site and move down one point at a time.. [maybe include this in the patient interview below]
70. Graphic with abdomen highlighted (arrow says 'morning injection') and arm highlighted (arrow says 'evening injection')	If you take more than one shot a day, you may use a different site for each.
71. Person jogging, looking tired, flopping down on bench	Physical activity can cause insulin to work faster. For example, say you injected in your leg and then went for a jog. You might find your blood glucose dropping faster and going lower than usual. To avoid this, you might choose to inject in your abdomen instead of your leg before running.
72. Patient Interview, on-camera	Patient: "I inject twice every day. I inject in the abdomen every morning and the arm in every evening…"
73. Patient wiping skin with alcohol swab	Once you have selected an injection site, wipe the skin with alcohol and wait a few seconds for it to dry.
74. Graphic showing what 45 and 90 degree angles look like	Pick up the syringe. You'll want to inject at a 45- to 90-degree angle.

75. Person giving injection	Now, press the plunger firmly and smoothly. Then pull the needle out.
76. Graphic cross-section of skin/fat/muscle (same as scene 61) but now showing needle moving *through* skin and fat to muscle – use color or graphic to show this is bad/painful	If you are very slender, you may be told to inject *only* at a 45-degree angle, to avoid the possibility of pushing the needle *through* your fatty tissue, into your muscle. Ask your diabetes care team which angle is best for you.
77. Tabletop of filling aide products	If you have arthritis or a related condition, your diabetes care team can introduce you to devices that make it easier to hold the syringe and bottle. These are known as filling aides.
78. Dropping syringe into Sharps container	After taking the injection, do not throw the used syringe in your regular trash. Used needles and syringes are considered medical waste. Instead, drop it into a special plastic container known as a Sharps container, which you can get at your local pharmacy or other supplier of diabetes products.
79. Garbage man lifting trash into truck	Your sanitation department may want you to dispose of Sharps containers in a particular way, so be sure to check with them about this.
80. CG Section Title Graphic: Using the Insulin Pen	*Music*
81. Tabletop of insulin pen	The insulin pen is another device for injecting insulin. Insulin pens are available in refillable and disposable types.
82. Diagram of pen with callouts: outer needle cap, inner needle cap, pen needle, rubber seal, insulin cartridge, magnifying dose window, dose knob.	At first glance, the insulin pen looks a lot like a writing pen, but it has a needle instead of a writing point, and an insulin cartridge rather than an ink cartridge.
83. CU of dial	You set your dosage on this dial.
84. Several pens with different mixes in them.	Though you can't mix different types of insulin and put them into an insulin pen, pens do come pre-mixed with different insulin combinations already in them, or in the insulin cartridge.

85. Patient interview, on-camera	Patient: “My doctor introduced me to the insulin pen. It looks just like a pocket-sized writing pen. And it’s easy—I just have to dial my dose, insert the needle, and push the button. It uses short, fine needles that don’t really hurt…”
86. Tabletop of refillable insulin pen and other supplies Lower-third CG bar: Using a Refillable Insulin Pen	First, we’ll look at how to use a refillable insulin pen; then we’ll look at the disposable pen. *Music*
87. Washing hands	After getting your supplies ready, wash your hands thoroughly with soap and warm water, and dry them.
88. CU of label of insulin pen showing printed label with type of insulin	Check to be sure that the insulin cartridge contains the type of insulin that has been prescribed for you.
89. Take cap off.	Begin by inserting a new insulin cartridge in the pen. Gently twist the cap to separate it from the barrel and pull the cap off.
90. Take off cartridge holder	Unscrew and take off the cartridge holder.
91. Turn reset until rod is in.	Turn the reset mechanism clockwise until the rod is completely in.
92. Take wrapper off cartridge	Remove the cartridge from its wrapper.
93. Mix insulin	If you’re using cloudy insulin, mix the insulin by turning the cartridge up and down 10 times.
94. Insert insulin cartridge	Insert the cartridge into the cartridge holder and screw the barrel on tightly. Make sure you can see the rear rubber stopper in the back window. If you can’t, do not inject the insulin.
95. Mix insulin again	Mix the insulin again.
96. Wipe off stopper	Wipe the rubber stopper of the cartridge with an alcohol swab.

97. Peel covering from needle and screw needle on cartridge	Peel the protective covering from the needle and screw the needle onto the end of the cartridge.
98. Remove needle caps	Remove the outer and inner protective needle caps.
99. Squeeze out an air shot.	Squeeze out an “air shot” to make sure the pen is working properly.
100. Adjust dial and test.	Point the pen upwards and adjust the dial to your dosage. Press the button in and make sure that insulin appears at the needle tip.
101. Wipe point on injection with alcohol and pinch skin.	Wipe the point of injection with alcohol and let it dry for a moment. Pinch the skin up a little and hold it firmly.
102. Insert needle and hold 10 seconds.	Push the needle into the skin at a 90-degree angle, then press the injection button firmly and smoothly. Depending on the pen, you may need to count to ten before drawing it straight out. Check with your diabetes care team about this.
103. CU of dose window	Check the dose window to make sure that a zero appears in it. If not, note the number shown and complete your shot with another cartridge.
104. Throw used needle in Sharps container	When you are finished, take the needle out of the pen. Insulin pen needles are disposable. Throw your needles away in a Sharps container.
105. Cap back on pen	Place the cap back on the pen. Put the pen in its storage place.
106. Tabletop of disposable insulin pen or person with disposable pen Lower-third CG bar: Using a Disposable Insulin Pen	*Music* Now we’ll look at the disposable insulin pen.

107. Person checking the pen to be sure the insulin type is right.	Before starting, check to be sure that it contains the type of insulin that has been prescribed for you.
108. Wash and dry hands	Wash your hands with soap and warm water and dry them.
109. Swab the skin where you'll inject	Swab the skin where you'll be injecting
110. Pull cap off.	Pull the cap off.
111. Wipe rubber seal	Wipe the rubber seal at the top with an alcohol swab.
112. Take paper tab off needle	Take the protective paper tab off the needle.
113. Screw capped needle onto pen	Screw the needle onto the pen tightly. You'll notice that it is still in its protective cap.
114. Hold up pen, remove outer cap	Point the pen up and remove the outer needle cap. Keep the cap nearby. You'll need it again.
115. Take off inner needle cap	Take off the inner needle cap and put it aside. This will be thrown away.
116. Pull out dose knob.	Now, prime the pen by pulling the dose knob out until a zero appears in the window.
117. Turn dose knob	Turn the dose knob clockwise until a two appears in the window.
118. Move air bubbles to top	Hold the pen facing up and tap the barrel gently to get any air bubbles to rise to the top.
119 Push injection button in.	Push the injection button all the way in and hold it there for a few seconds. A small drop of insulin should come out at the tip of the needle. Now you are ready to set your dose.
120. Set dose	Pull the dose knob out until a zero appears in the window. Turn the knob until your dose appears in the window.

121. Inject	To inject, press down the injecting button and hold it for at least five seconds. Then remove the needle from the skin.
122. Put cap on needle and throw it into Sharps container	Screw the outer needle cap back on the needle tightly. Unscrew the capped needle and dispose of it in a Sharps container.
123. Put cap back on pen	Put the cap back on the pen. Do not store or dispose of a pen with a needle still on it.
124. Tabletop of insulin pump	There are other methods for delivering insulin, in addition to the syringe and insulin pen.
125. CU of insulin pump	The insulin pump is a computerized device about the size of a pager that delivers a continuous dose of insulin to the body, 24 hours a day, through a small tube. It can be easily worn on a belt or kept in a pocket.
126. Person wearing insulin pump	Some people prefer the continuous delivery of the insulin pump over giving injections. Users of the insulin pump must be highly motivated, testing blood glucose several times a day and intensely managing their blood glucose level.
127. Person pumping at mealtime	The insulin pump is worn at all times, even during sleep, and must be frequently operated to pump extra insulin into the blood at certain times such as mealtime.
128. Insulin jet injector	Insulin jet injectors don't use needles. Instead, insulin is injected directly into the body on a quick burst of air from a tiny opening on the device. Some people report that the jet injector is less painful than injection by needle.
129. Person using jet injector	Jet injectors are able to deliver a highly accurate dose of insulin. Jet injectors, however, are much larger than syringes and can sometimes cause bruising.

130. CG Section Title Graphic: Care of Insulin and Syringes	*Music*.
131. Tabletop of insulin, needles, pens, Sharps container, swab container, etc.	So far we've looked at how to use insulin injection devices. Now let's look at how to care for your materials. Proper care of your insulin, syringes and needles is extremely important to your safety and to the overall effectiveness of your program.
132. Frosted insulin	First, never use insulin from a bottle that looks frosted.
133. Cloudy insulin	Never use clear insulin that looks cloudy or discolored.
134. Yellow, lumpy insulin	Never use cloudy insulin that is yellowish or lumpy.
135. CU of Expiration Date	Never use insulin if the expiration date that is printed on the bottle has already past.
136. Bottle of insulin in guy's briefcase	Always keep a spare bottle of insulin on hand.
137. Insulin in refrigerator	Store any insulin you aren't currently using in your refrigerator. If you plan to finish a bottle within 30 days, you don't have to refrigerate it.
138. Women taking insulin from fridge, setting it on table and continuing with her paperwork	Here's a comfort tip: Cold insulin may sting when injected; so, if possible, let your insulin warm to room temperature before you use it.
139. Graphic of the red circle and slash that says "No!" … indicating not to leave insulin in cold or hot weather.	Never store insulin anywhere that is cooler than 40 degrees or hotter than 90 degrees. If this happens, throw the insulin out. Never leave insulin on a window sill or near a heating source.
140. A supply of syringes in a drawer, with other medical materials	Make sure you have plenty of syringes on hand. Syringes are meant to be used once and then thrown away.

141. Consultation with diabetes care team	There are different viewpoints among diabetes professionals on whether or not syringes should be re-used. Ideally, used syringes should be thrown away. If you want to reuse syringes, consult with your diabetes care team about it.
142. Diabetes care team member interview, on-camera	Diabetes Care Team Member commenting on the advantages and disadvantages of reusing syringes. Cost vs. safety, etc.
143. Person cleaning syringes	If you do re-use syringes, be sure to clean them thoroughly with alcohol and re-cover them with their caps. Never let a syringe touch anything other than your skin and the top of the cover. Never let anyone else use your syringe under any circumstances, and never use anyone else's.
144. Tabletop of helpful products	Many products are available to help you with your insulin program—from syringe magnifiers for the vision impaired, to special caps simplify the drawing of insulin, to color-coded sleeves that can organize insulin bottles. Your diabetes care team can help you locate many useful products.
145. Person taking out there injection materials	By practicing and working closely with your diabetes care team, injecting insulin will become second nature. Once you get comfortable with it, you'll find that it is hardly an impediment at all.
146. Interview, care team member	Care team member: "Controlling your diabetes by keeping your blood glucose in a healthy range will give you the best opportunity to live a long and productive life…" Positive comments to close from a professional.
147. Lab shot	New methods of insulin delivery are constantly being researched. Breakthroughs are almost certain to occur that will make insulin delivery easier in the years to come.
148. Patient Interview, on-camera	Patient: "I think the anticipation of the whole thing, this big change in my life, and the pain were my biggest problem. Once I realized I

	didn't have the pain, I was fine…"
149. Patient Interview, on-camera	Patient: "You're going to have a certain amount of fear. But it wears off quickly. It's being afraid of the needle, of what other people think of you...I know that was a problem with me, then I realized how many people have diabetes, and have used needles, and have simply gone on with their lives..."
150. Happy person or people walking on a beautiful day.	Patient: "I'm back to living my life, and that's all that matters.
FADE TO BLACK	