

# Insulin Pen Use in Healthcare Facilities

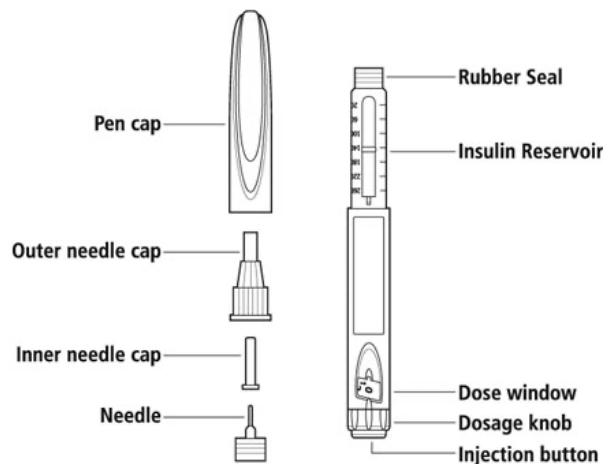
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<http://www.emc.org/healthyliving.cfm?id=855&action=detail&source=511&issue=581&dataRef=21&geo=>

- It is estimated that approximately 25% of patients in nursing facilities have diabetes.
- Insulin administration continues to be a top offender in patient injuries, despite numerous safety actions taken to prevent patient harm.
- Insulin pens can alleviate some patient injuries, especially if the patient is administering the insulin from home. Insulin pens are labeled from the manufacturer, which prevents any mix-ups with syringes. Pens also come “ready to administer,” with no need to pull insulin up from a vial.
- Insulin pens should not be used with multiple patients, even if using a different disposable needle for each patient. Blood products and other contaminants can get into the cartridge through the pen needle, which is a substantial infection risk. Patients can be unnecessarily exposed to HIV, Hepatitis C, Hepatitis B, and other blood borne pathogens.
- Insulin pens should not be used like an insulin vial. This can introduce air into the cartridge, which can result in incorrect dosing or injection of air bubbles.



<http://www.upmc.com/patients-visitors/education/diabetes/pages/insulin-pens-how-to-give-a-shot.aspx>

## References

1. Haas LB. Optimizing insulin use in type 2 diabetes: role of basal and prandial insulin in long-term care facilities. *J Am Med Dir Assoc.* 2007;8(8):502-10.
2. Grissinger M. Avoiding problems with insulin pens in the hospital. *P T.* 2011;36(10):615-6.
3. ISMP. Ongoing concern about insulin pen reuse shows hospitals need to consider transitioning away from them. Institute for Safe Medication Practices. <http://www.ismp.org/newsletters/acutecare/showarticle.aspx?id=41>. Published February 7, 2013. Accessed August 12, 2014.

# General Instructions for Insulin Pen Use

(always refer to manufacturer's instructions for specific pens)

Step	Pen Pitfalls
1. Examine the pen and check the label	<ul style="list-style-type: none"> <li>• Each pen comes with a different set of instructions</li> <li>• Rapid-acting vs long-acting insulin pens can be easily confused → giving a large dose of rapid-acting believing it is long-acting can be fatal</li> <li>• Match the pen with the patient → insulin pens should NEVER be shared</li> <li>• Insulin should be clear, colorless, and free of particulates (unless the insulin contains NPH)</li> <li>• If pen contains NPH, be sure to mix by rolling between palms 10xs</li> </ul>
2. Attach a new needle	<ul style="list-style-type: none"> <li>• Keep the needle straight as you attach it</li> <li>• Make sure you have the proper needle type</li> <li>• Keep the outer cover for twisting off the used needle at the end</li> </ul>
3. Prime the pen ("Safety Test" / "Air Shot")	<ul style="list-style-type: none"> <li>• This must be done EVERY SINGLE time</li> <li>• Inject 2 units of insulin into the air</li> <li>• Be sure you see droplets of insulin come out</li> <li>• Removes air bubbles</li> <li>• Ensures pen and needle are working properly</li> <li>• Not doing can result in sub-therapeutic doses delivered to the patient</li> </ul>
4. Click to the dose	<ul style="list-style-type: none"> <li>• Dose window should read "0" after the prime</li> <li>• Make sure you are not reading the numbers upside down (some pens designs predispose to reading errors such as 25 vs 52, 12 vs 21, etc.)</li> </ul>
5. Insert the needle into skin and press down on button	<ul style="list-style-type: none"> <li>• Insulin pen plungers can be hard to push down, and could be extended substantially for larger doses. Make sure you don't accidentally withdraw the short needle while pushing down on the button</li> <li>• Needle sticks possible if you do not inject at a 90degree angle to skin</li> </ul>
6. Hold the pen and needle in place for 10 seconds	<ul style="list-style-type: none"> <li>• Prevents "leak-out" of insulin from injection site; ensures entire dose is delivered to the patient</li> </ul>
7. Remove the needle from the pen and replace pen cap	<ul style="list-style-type: none"> <li>• Replace the outer needle cap and twist off</li> <li>• Removing needle prevents air bubbles and contaminants from traveling back up into the cartridge if needle is left on</li> <li>• Dispose after 28 days</li> </ul>