PURPOSE:
To prepare a mixed dose of short acting and intermediate/long acting insulin.

CONSIDERATIONS:
1. When combining insulins in a syringe, make sure they are compatible. The following insulins may be combined:
   a. Novolog (Lispro) and Humalog (Aspart), Rapid acting insulin, can be mixed with NPH if provided by the same manufacturer and are administered within 15 minutes after mixing.
   b. Regular (short acting insulin) and NPH can be mixed.
   c. Glargine (Lantus): Cannot be mixed with other insulin.
2. Rapid acting or Regular insulin is drawn up first, followed by intermediate/long acting insulin; use within 15 minutes.
3. Mixing insulin for future use (pre-drawing insulin):
   a. Novolog, Humalog, and Lantus are not recommended for pre-drawn use,
   b. Novolin NPH and Regular insulin may be stored for 30 days, if refrigerated.
   c. Humulin NPH and Regular insulin may be stored for 21 days, if refrigerated.
   d. Pre-drawn syringes should be stored with the needle pointing up so particles do not clog the needle.
4. All pre-drawn syringes should be gently rolled between the hands before use to mix.
5. Insulin administration is an appropriate procedure to teach to patients and caregivers.
6. Vials of insulin not in use should be refrigerated. Extreme temperatures (< 36 degrees or > 86 degrees Fahrenheit, <2 degrees or > 30 degrees Celsius) and excess agitation should be avoided to prevent loss of potency, clumping, frosting, or precipitation. Insulin in use may be kept at room temperature for 28 to 30 days after opening.
7. An opened vial of insulin refrigerated or stored at room temperature should be discarded 30 days after opened.

EQUIPMENT:
Two types of ordered insulin
Insulin syringes (0.3, 0.5, 1 or 2 mL capacity) with 24-31 gauge needle, 5/16 (five-sixteenths) to 1/2 (one-half) inch long or needleless adaptors
Alcohol wipe

PROCEDURE:
1. Adhere to Standard Precautions.
2. Check physician's order for both types of insulin dosages, frequency, and route of administration. Check the insulin vials for the type, strength, and expiration date. Mix the insulins by rolling the vials between your palms approximately 20 times. DO NOT shake the vials.
3. Use an alcohol swab to cleanse the rubber stopper on top of both vials. Allow to air dry.
4. Draw air into the syringe in an amount equal to the prescribed dose of longer acting insulin or NPH insulin. Inject all the air into the NPH vial. Remove the syringe from the vial.
5. Draw air into the syringe in an amount equal to the prescribed dose of rapid acting insulin or regular insulin. Inject air into the regular insulin vial. Invert the vial and withdraw the prescribed dose of regular insulin.
6. Before removing syringe from regular insulin vial, check for air bubbles in the syringe barrel. If present, lightly tap the syringe with your finger. Push up slightly on the plunger to force the air back into the vial. Make sure the syringe still contains the prescribed dose of insulin. If not, draw up the amount needed. Withdraw needle and syringe.
7. Insert needle into longer acting insulin or NPH vial and invert vial. Withdraw the correct amount of NPH insulin, being sure not to push any regular insulin into the vial. If regular insulin is discharged into the NPH insulin vial, the vial will have to be discarded.
8. Follow insulin administration procedure and inject insulin into subcutaneous tissue. Aspiration is not necessary.

AFTER CARE:
1. Document in patient's record:
   a. Medication, type and amount prepared.
   b. Date and time administered.
   c. Patients response.
   d. Instructions given to patient/caregiver.