



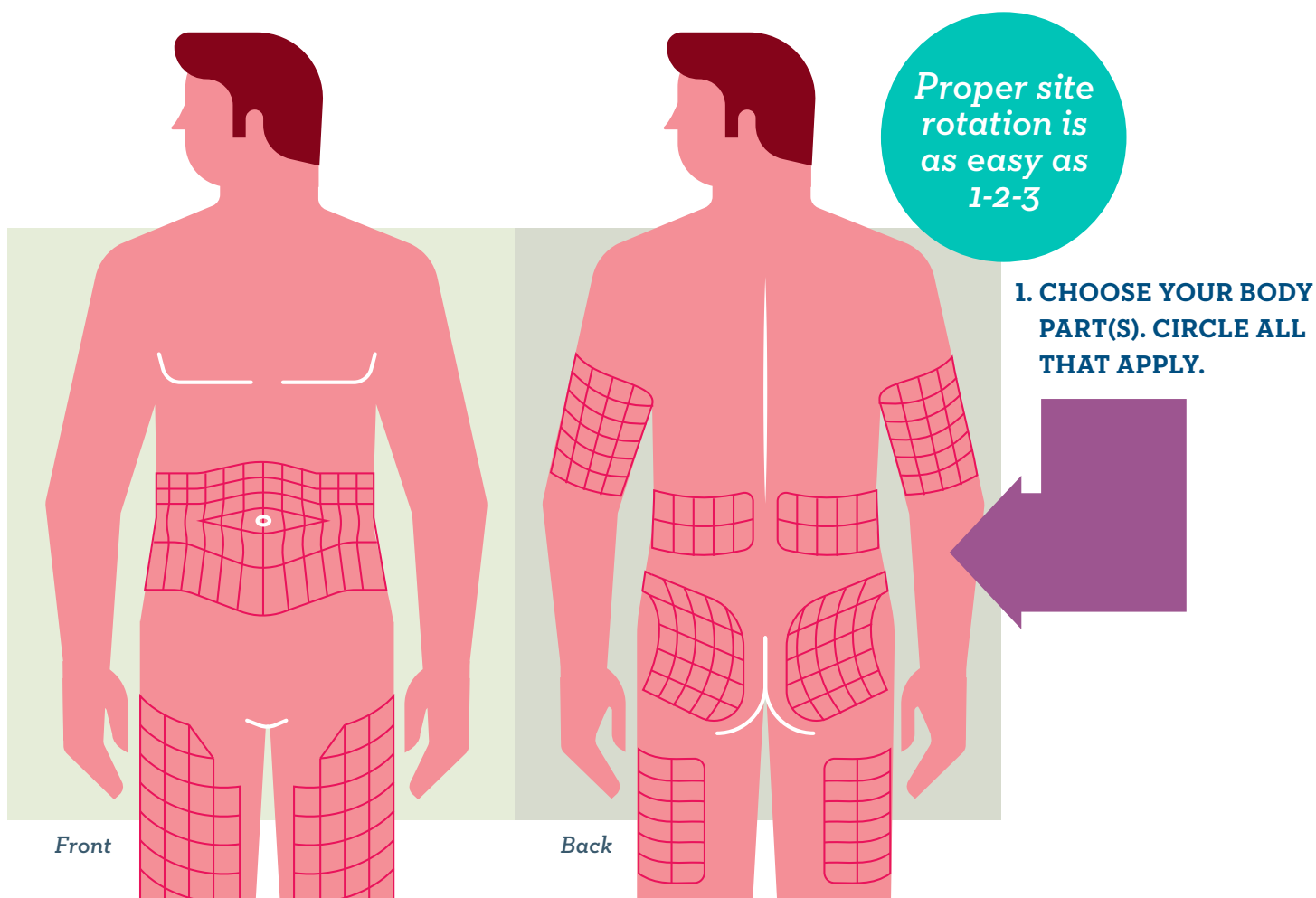
Insulin

INFUSION SETS

SITE ROTATION TOOL KIT

Just as we rotate and change the tires on a car to prevent uneven tread wear, flats and dangerous blowouts, we must rotate pump infusion sites to prevent skin problems and uneven insulin absorption.

Infusing insulin into the same spots repeatedly can cause lipodystrophy—a breakdown or inflammation of the fat tissue below the skin. When this happens, the skin can either dimple or become unusually hard and insensitive. These spots tend to have reduced blood flow, and insulin does not absorb properly—if at all. In some cases, they can also be unpleasing to the eye. Rotating sites evenly over large areas of skin will help prevent the development of lipodystrophy and allows for consistent insulin absorption and action. Given that it may take years for lipodystrophic tissue to heal (if it heals at all), it is well-worth taking the steps necessary to prevent the problem in the first place.



Proper site rotation is as easy as 1-2-3

1. CHOOSE YOUR BODY PART(S). CIRCLE ALL THAT APPLY.

1. SITE CHOICE NOTES


Choose these areas:

✓	Any area of skin with a reasonable fat pad (able to “pinch an inch”) is “fair game” for placing a pump infusion set.
✓	The abdomen is generally easiest to see and reach, and is a good place for new pump users.
✓	Other common sites are the upper buttocks, outer thigh, hip flexor, back of the arm, lower back, and flanks.
✓	During the later stages of pregnancy, the flanks (just above the waistline on the sides of the body) may be ideal.
✓	The upper buttocks may be a good spot for those with adhesion issues since the skin pulls and perspires less, and a tight undergarment helps hold the set in place.
✓	Those using an insertion device may have an easier time inserting hard-to-reach sites than those inserting manually.

Avoid these areas:

✗	A two-inch area surrounding continuous glucose sensors
✗	Sites that have existing lipodystrophy (palpate the skin for a thickened/rubbery feeling, swelling, lumps below the skin, or unusually soft spots with or without dimpling)
✗	Sites that experience repeated muscle movement (such as the arms for tennis players or the thigh for runners), as this may yield inconsistent insulin absorption rates and potential for infusion set dislodgement
✗	A two-inch area surrounding the navel, skin folds and scars
✗	Places subject to prolonged restrictive pressure from sitting, sleeping and tight clothing
✗	Bony areas, and sites that have very little subcutaneous fat tissue

2. ROTATE SITES WITHIN RECOMMENDED BODY PARTS.

Left Side					Right Side			
								

Rotating sites in an organized fashion is the best way to prevent site overuse. Simply going from right side to left side repeatedly may result in overuse of sites before they have a chance to fully heal. Instead, stay on one side of your body for several site changes, moving just a couple of inches each time – 2” minimum for angled infusion sets, 1” for 90-degree infusion sets.

Keeping the old infusion set on the body can serve as a good reference point for placing the new infusion set.

For example, when placing infusion sets on a large body part such as the abdomen of a heavy adult, a 4 x 4 pattern can be used:

Heavy adult, a 4 x 4 pattern can be used:

Left Side					Right Side			
1	2	3	4		20	19	18	17
5	6	7	8		24	23	22	21
9	10	11	12		28	27	26	25
13	14	15	16		32	31	30	29

INSULIN INFUSION SETS

Site Rotation Tool Kit

On modest-sized adults, 3x3 patterns are considered the norm:

Left Side					Right Side			
	1	2	3		12	11	10	
	4	5	6		15	14	13	
	7	8	9		18	17	16	

When using an extremity such as the arms or outer thighs, a 2x3 pattern can be used:

Left Side					Right Side			
	1	4				8	7	
	2	5				10	9	
	3	6				12	11	

On a small child, 2x2 patterns are often used:

Left Side					Right Side			
	1	2				6	5	
	3	4				8	7	

Once all sites on both sides of a body part have been used, the individual may repeat the process on the same body part or move to a different body part.

3. CHANGE SITE ON-SCHEDULE

●	Every 48 hours whenever possible.
●	Every 48 hours during pregnancy.
●	Every 72 hours if not experiencing elevated/erratic glucose levels and/or site irritation on the 3rd day of use.
●	Immediately if site problems are noted (unusual pain, signs of infection, leakage, loose adhesive, cannula dislodgement, blood in the cannula or tubing, persistent elevated glucose, presence of ketones.)
To avoid using infusion sets longer than their intended duration, consider the following:	
●	Only put enough insulin into the pump to last the desired timeframe (plus enough for priming tubing)
●	Use the site change reminder on the pump (if available)
●	Change the infusion set at roughly the same time of day each time
●	Write reminders onto a calendar
●	Program reminders into a cell phone
●	Use a smartphone app with a site change reminder feature