



Intravenous literature: Connolly, S., Korzemba, H., Harb, G., Lebel, F. and Syltevik, C. (2011) Techniques for Hyaluronidase-Facilitated Subcutaneous Fluid Administration With Recombinant Human Hyaluronidase: The Increased Flow Utilizing Subcutaneously Enabled Administration Technique (INFUSE AT) Study. *Journal of Infusion Nursing*. 34(5), p.300–307.

Abstract:

Introduction: Recombinant human hyaluronidase facilitates subcutaneous (SC) fluid delivery, but little is known about how various access sets influence ease of administration, technical challenges (TCs), or adverse events.

Methods: This randomized, open-label, parallel-group trial was performed to assess the impact of catheter size (20- and 24-gauge short peripheral intravenous catheter, 27-gauge SC button), catheter material (Teflon, polyurethane), and securement method (transparent semipermeable membrane dressing, double chevron with cloth or plastic tape) on hyaluronidase-facilitated SC fluid delivery. Healthy volunteers (N = 100) were randomized to 1 of 9 access groups using a factorial design. To minimize variability, treatment was performed at a single center and standardized to 150 units of SC recombinant human hyaluronidase (HYLENEX, Baxter Healthcare Corporation) followed by 1000 mL of lactated Ringer's solution.

Results: The first attempt at needle insertion succeeded in 98% of subjects; the median time for first catheter placement was less than 1 minute. The median infusion time was 6.8 hours.

Overall, the incidence of TCs observed (catheter kinking, dislodgment, or pullout or infusion pump alarm) was low and comparable across groups (16.7%-27.3%); however, catheter kinking, dislodgment, and pullout occurred only in groups using double- chevron securement. Infusion-site reactions (pain, 20%-75%; erythema, 17%-36%; swelling, 0%-33%) were the most common adverse events. Pain was less frequent in groups using the 27-gauge SC button (27%) or the 24-gauge catheter (20%-36%) than with the 20-gauge catheter (50%-75%).

Discussion: Hyaluronidase-facilitated SC fluid administration with recombinant human hyaluronidase was generally well tolerated and successfully implemented using a range of access sets. Technical challenges were not common but were further minimized with TSM securement. Infusion-site pain was mostly mild and least common with 24-gauge or smaller catheter/needles.

