Fine tuning insulin therapy settings for insulin delivery devices: Getting it right for Traditional device delivery leading to advanced diabetes devices

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Abstract

Description: Regardless of the insulin delivery device or type of diabetes, determining and fine-tuning of insulin therapy settings (insulin to carbohydrate ratio, insulin sensitivity factor, duration of insulin action, target glucose) is critical to achieving glycaemic targets safely. New smart insulin pens and smart insulin pumps offer a golden opportunity for the diabetes care and education specialist to lead in configuring these tools for the patient's individual needs. The main aim is to learn how to determine initial insulin therapy settings based on evidence, learn how to collaboratively use the data with the patient on-going to fine-tune the therapy settings to optimize the insulin regimen in a timely manner, explore the possibility of providing virtual care for insulin therapy patients through the use of remote patient monitoring codes.

Outline: Methods of insulin delivery and the myriad of approaches to determining and fine-tuning insulin therapy settings, legacy insulin delivery through traditional pens, vial and syringe to smart insulin pens to smart insulin pumps and inhaled insulin, the dynamic nature of insulin therapy: the need for on-going titration and dose optimization: basal and bolus insulin, titration approaches, clinic initiated, Patient initiated, Insulin titration platforms. The role of the diabetes care and education specialist in determining initial insulin therapy settings and on-going data-driven fine-tuning of the insulin regimen is studied. Evidence-based mealplanning approaches for both T1D and T2D, determining and fine-tuning Insulin to carbohydrate ratios, accommodating protein and fat rich meals, timing of meal relative to dose, other influencing factors such as fibre, GI, exercise relative to meal, etc helps in determining insulin sensitivity factor and duration of insulin action for patients using CGM vs. SMBG. Customizing the glucose target over the lifespan. Fine-tuning the therapy settings over times using a data-driven approach for patients using automated bolus calculators should be done. The study explores the possibility of providing virtual care for insulin therapy patients through the use of remote patient monitoring codes, virtual care models for insulin therapy patients, remote monitoring codes and their application to insulin therapy with insulin delivery devices and the resulting data reports, building a data-driven practice that shows diabetes care and education specialists are the leaders.

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