

PHARMACOLOGY

Insulin suspension isophane often inadequately resuspended

Insulin suspension isophane [neutral protamine Hagedorn insulin; NPH] in pen cartridges is often inadequately resuspended before administration, report researchers from Germany. They 'recommend that patients using insulin pens with NPH preparations tip the pen at least 20 times'.

Study details

They investigated the content of insulin suspension isophane in cartridges used by 109 patients with type 1 or 2 diabetes mellitus.*

Only 10 patients tipped and rolled the pen > 10 times to resuspend insulin suspension isophane. Compared with a control cartridge, the insulin suspension isophane content of cartridges from patients was < 80% in 57 cartridges and > 120% in 14 cartridges.

Linked to hypoglycaemic episodes?

There was no significant relationship between inadequate suspension and the number of hypoglycaemic episodes. The researchers say that 'although HbA_{1c} [glycosylated haemoglobin] values were unchanged in our study, the quality of NPH insulin suspension may be responsible for a sizeable number of otherwise unexplained hypoglycaemic episodes associated with pens'.

Among 44 patients who had insulin suspension isophane suspension quality reassessed after receiving feedback about their insulin suspension and further education, suspension errors decreased in 35. In these 35 patients, the number of hypoglycaemic episodes per month decreased significantly from baseline.

* Cartridges contained insulin suspension isophane either alone or in combination with a short-acting insulin.

Jehle PM, Micheler C, Jehle DR, Breitig D, Boehm BO. Inadequate suspension of neutral protamine Hagedorn (NPH) insulin in pens. Lancet 354: 1605-1607, 6 Nov 1999

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