## ICD Recipients Living Longer Than ICD Batteries

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STOCKHOLM — The batteries of implantable cardioverter-defibrillators are not keeping up with patient life span, suggesting that a lot of patients will need followup surgery to get their batteries replaced.

"Unless the service life of pulse generators [implantable cardioverter-defibrillators] improves substantially, patients will undergo more frequent replacement protocols, and ICD costs will continue to increase at an alarming rate," Robert G. Hauser, M.D., said in a poster presented at the annual congress of the European Society of Cardiology.

"As indications expand, longer-[life] ICDs will be needed if this treatment is to be cost beneficial." said Dr. Hauser, a cardiologist with the Minneapolis Heart Institute Foundation.

He reviewed the outcomes of all patients who received ICDs at the institute during 1994-2005. The group included 813 patients who received single-chamber defibrillators, 616 who got dual-chamber units, and 405 with cardiac resynchronization devices.

The rate of failure due to battery depletion began to rise 3.5 years after the single-chamber devices were placed, and after 7 years about 95% had failed. Dead batteries began to pile up after 4 years for the dual-chamber implants, and after about 5 years approximately 80% had failed. The cardiac resynchronization devices burned out even faster, starting to fail after 2 years, and after 3 years about 30% had stopped working.

Patients survived much better than their batteries. Among those who had a left ventricular ejection fraction of at least 40% at the time of their implant, 90% lived for 5 years and 65% lived for 10. Patients with ejection fractions of less than 40% had a 5-year survival rate of approximately 70%, and about 40% lived for 10 years.

## Humalog® Mix75/25™ provides both fasting and postprandial control from the start

More than twice as many patients on Humalog Mix75/25 plus metformin reached an A1C  $\leq$  7% compared to patients on glargine plus metformin (30% vs 12%).\* †

- Primary end point for this trial is a change in A1C at the end of the treatment period. There was a 1 percentage point reduction with Humalog Mix75/25 and a 0.42 percentage point reduction with glargine.
- Overall hypoglycemia rate and nocturnal hypoglycemia rate were not different between the two treatment groups.1

**Provides Both Fasting** and Postprandial Control

Simple to Start

Easy-to-use Pen

Humalog Mix75/25 is for use in patients with diabetes mellitus for the control of hyperglycemia.

## **Important Safety Information**

Humalog differs from regular human insulin by its rapid onset of action as well as a shorter duration of activity. Therefore, the dose of Humalog Mix75/25 should be given within 15 minutes before a meal.

Humalog or Humalog Mix75/25 is contraindicated during episodes of hypoglycemia and in patients sensitive to Humalog or any excipients contained in the formulation. Safety and effectiveness of Humalog Mix75/25 in patients less than 18 years of age have not been established. There are no adequate and well-controlled clinical studies of the use of Humalog or Humalog Mix75/25 in pregnancy or nursing mothers.

Potential side effects associated with the use of all insulins include hypoglycemia, weight gain, hypokalemia, lipodystrophy, and hypersensitivity. Because of the difference in action of Humalog, care should be taken in patients in whom these conditions may be clinically relevant (eg, those who are fasting, have autonomic neuropathy or renal impairment, are using potassium-lowering drugs, or taking drugs sensitive to serum potassium level). Patients should be advised not to mix Humalog Mix75/25 with another insulin. Starting or changing insulin therapy should be done cautiously and only under medical supervision.

Humalog® Mix75/25™is a trademark of Eli Lilly and Company. Humalog Mix75/25 is available by prescription only.

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pen-label, randomized, crossover trial of 97 patients with type 2 diabetes inadequately olled on once- or twice-daily insulin alone or in combination with other oral agents

PAIR-PI average daily dose of insulin for Humalog Mix75/25 vs glargine:  $0.42 \pm 0.20$  vs  $0.36 \pm 0.18$ 

Malone JK et al. Combined therapy with insulin lispro mix 75/25 plus metformin or insulin glargine plus metformin. Clin Ther. 2004;26(12):2034-2044.