

Home O₂ Protocol Cuts Bronchiolitis Admissions

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VANCOUVER, B.C. — Selected children with bronchiolitis who are seen in the emergency department can be safely managed with home oxygen therapy and thereby avoid hospital admission, according to Dr. Sarah M. Halstead.

In a retrospective study of more than

5,000 pediatric cases of bronchiolitis with hypoxia seen in the emergency department (ED), only 6% of children sent home on oxygen had to be admitted to the hospital at a later time, with none having adverse outcomes or requiring intensive care or placement of an advanced airway.

Moreover, the ED's overall rate of hospital admission for children with bronchiolitis fell by about a third from his-

torical levels before the home oxygen protocol was used, based on results reported at the meeting.

"To improve clinical care, we hope that [these] data, which [do] support the safety of a home oxygen program for patients with bronchiolitis seen in the ED, will encourage other institutions to consider similar home oxygen protocols," Dr. Halstead, the lead investigator, said in a poster.

"Increasing ED overcrowding and boarding of inpatients makes the development and analysis of this and other novel outpatient care strategies imperative," she added.

The investigators used electronic medical records to assess outcomes among children aged 1-18 months seen in the ED with bronchiolitis during the 2005 through 2009 bronchiolitis seasons, a period when the emergency department had a home oxygen protocol in place. Children with cardiopulmonary conditions who required oxygen at baseline were excluded.

"Prior to discharge on home oxygen, we observed patients in the ED for 8 hours," explained Dr. Halstead, a pediatrician at the Children's Hospital in Aurora, Colo.

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"If they had oxygen saturations of greater than 90% on half a liter or less of nasal cannula oxygen, they were able to maintain adequate hydration without frequent deep suctioning, they had no signs of respiratory deterioration, and both the caregiver and the attending were comfortable with discharge home, then a follow-up appointment was arranged and ... home oxygen was supplied for the family," she said.

Study results were based on 5,065 cases of bronchiolitis seen in the ED, 13% of whom were discharged on home oxygen therapy. Within this group, only 6% had to be admitted at a later time—a value that did not differ significantly from the 4% seen among children discharged on room air.

The leading reason for admission after a discharge on home oxygen was an increased oxygen requirement (51%), followed by increased work of breathing (46%), parental concern or compliance issues (24%), a need for intravenous fluids (8%), and difficulties with home oxygen therapy (5%).

"There were no adverse outcomes, ICU admissions, or need for advanced airways in any of these patients," Dr. Halstead reported.

The emergency department's overall hospital admission rate for bronchiolitis (which captured both children initially admitted and children admitted after initially being sent home) was 28% during the study period—substantially lower than the 39%-40% seen historically before implementation of the home oxygen protocol.

Because some children sent home on oxygen may have been admitted later to outside institutions, the admission rate found in the study may be an underestimate, Dr. Halstead said. ■

It's never too early to have the "insulin talk"

Some conversations may be hard to initiate. Take the "insulin talk," for example. According to the American Diabetes Association, insulin is the most effective agent for lowering blood glucose.¹ It works as part of an overall diabetes treatment plan, which may include diet, exercise, and other diabetes medication. Having the "insulin talk" early may help patients accept insulin as a potential treatment option to help them achieve their A1C goals.²

The results of having a positive "insulin talk" can be impactful: in a survey, about 80% of patients with type 2 diabetes on OADs said they'd consider taking insulin if their doctor recommended it.³ So by starting the dialogue now, you can help your patients have a better understanding of insulin as an effective treatment option for lowering blood glucose.

Insulin—a chance for successful glycemic control, not a punishment for failure

Patients may focus on blaming themselves for their uncontrolled blood glucose, but you can help them focus on turning this negative mindset into positive action for managing their disease.² The United Kingdom Prospective Diabetes Study showed that by the time patients with type 2 diabetes are diagnosed, they may already have lost up to 50% of their beta-cell function, and this function may continue to decline.⁴

Because the disease is progressive, many patients with type 2 diabetes may eventually need insulin to achieve or maintain glycemic control.^{2,5} But by the time patients with type 2 diabetes are prescribed insulin, they may have had diabetes for 10 to 15 years and may already have complications due to a prolonged period of uncontrolled blood glucose.⁶ Starting insulin earlier in the disease continuum for appropriate patients can help improve glycemic control. Controlling blood glucose can reduce the risk of diabetes-related complications.^{5,6}

Treatment plans and glycemic targets should be individualized for each patient.

Insulin is indicated to help improve glycemic control in patients with diabetes mellitus.

Important Safety Information About Insulin

Possible side effects may include blood glucose levels that are too low, injection site reactions, and allergic reactions, including itching and rash. Other medications and supplements could change the way insulin works. Glucose monitoring is recommended for patients with diabetes.

THE "INSULIN TALK"

Have the talk early and as needed, to help destigmatize insulin²

- Reassure patients that using insulin doesn't mean failure and that insulin may help replace what the body is no longer adequately making
- Turn the negative mindset of failure into a positive opportunity to take personal control of A1C

Put insulin therapy in context

- Explain the benefits of maintaining blood glucose goals and the risks associated with insulin therapy
- Talk about how insulin may be worth the effort—insulin is an effective treatment option that works as part of an overall treatment plan to lower blood glucose

Identify patients' personal obstacles and help defuse the "scary" factor²

- Today's insulin injections generally cause little discomfort and are administered using small, thin needles^{2,6}
- Insulin pens make insulin more convenient to administer and are discreet²
- Insulin dose may need to be adjusted up or down over the course of treatment depending on how a patient's body responds⁵

INSULIN

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References: 1. Nathan DM, Buse JB, Davidson MB, et al. *Diabetes Care*. 2009;32(1):193-203. 2. Polonsky WH, Jackson RA. *Clin Diabetes*. 2004;22(3):147-150. 3. Data on file, sanofi-aventis 2009. 4. Holman RR. *Diabetes Res Clin Pract*. 1998;40(suppl):S21-S25. 5. Hirsch IB, Bergenstal RM, Parkin CG, Wright E, Buse JB. *Clin Diabetes*. 2005;23(2):78-86. 6. Nathan DM. *N Engl J Med*. 2002;347(17):1342-1349.