Pressure flow characteristics of the valve in spacer devices

SIR,—The drug delivery from a holding chamber with facemask to infants will be dependent upon many factors including chamber size, aerosol density, dead space from valve to patient, and efficiency of valve. The paper by Sennhauser and Sly is an attempt to look at one of these parameters.¹ Our visual observation would agree with theirs: that the Volumatic valve (Allen and Hanburys) will close at lower flow rates than that of the Nebuhaler (Astra). However, the purpose of such a device is to deliver drug to the infant and we find consistently more drug is delivered from the Nebuhaler than the Volumatic, even at low flow rates (unpublished results).

It is our belief that neither valve is ideal for use in young infants and more efficient valves are required. An attempt has been made to adapt the Nebuhaler valve to the requirements of infants,² but this increases its complexity and dead space.

At present we use Nebuhaler and facemask to deliver drugs such as steroids and ipratropium bromide. After actuation of the metered dose inhaler the Nebuhaler is tilted, opening the valve, which then remains open. As the device is only applied for 10 seconds any effects from rebreathing are small and very transient.

Although we believe that such devices will prove to be a useful addition to our present repertoire we require further information not only on design features required to maximise drug delivery but also on the role of various drugs delivered by this route to infants.

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1 Sennhauser FH, Sly PD. Pressure flow characteristics of the valve in spacer devices. *Arch Dis Child* 1989;64:1305-7.

2 Bisgaard H. PEP spacer. An adaptation for administration of MDI to infants. *Allergy* 1989;44:363-4.

MEETINGS IN 1990

Ambulatory Pediatric Association

7-11 May, Anaheim, California

Further details: Dr Marge Degnon, 6728 Old McLean Village, McLean, VA 22101, USA

American Pediatric Society

7-11 May, Anaheim, California

Further details: Ms Debbie Anagnostellis, Society for Pediatric Research, 2650 Yale SE, Suite 104, Albuquerque, New Mexico 87106, USA

British Association of Perinatal Medicine

15 September, University of Wales College of Medicine

Further details: Dr Mark R Drayton, University Hospital of Wales, Department of Child Health, Heath Park, Cardiff CF4 4XN

British Paediatric Association

3-6 April, University of Warwick

Further details: Miss RJ Topping, British Paediatric Association, 5 St Andrew's Place, Regents Park, London NW1 4LB

British Paediatric Respiratory Group

5-6 October, Joint Meeting with the Dutch Respiratory Group, The Hague, The Netherlands

Further details: Dr Warren Lenney, Royal Alexandra Hospital for Sick Children, Dyke Road, Brighton, East Sussex BN1 3JN

Clinical Genetics Society

18-20 April, University of Newcastle upon Tyne

Further details: Dr John Burn, Human Genetics Department, 19 Claremont Place, Newcastle upon Tyne NE2 4AA

European Society for Paediatric Endocrinology

2-5 September, Vienna

Further details: Dr H Frisch, Department of Endocrinology, University Children's Hospital of Vienna, Wahringer Gurtel 18-20, A-1090 Vienna, Austria

European Society of Paediatric Gastroenterology and Nutrition

25-27 May, Amsterdam

Further details: Dr A Dowes, Free University Hospital, Amsterdam Children's Department, PO Box 7057, NL-1007, Amsterdam, The Netherlands

European Society for Paediatric Nephrology

30 September-4 October, Rome

Further details: Dr Michael Winterborn, Paediatric Dialysis Unit, East Birmingham Hospital, Bordesley Green East, Birmingham B9 5ST

European Society for Pediatric Research

23-27 September, Vienna

Further details: Professor K Widhalm, Department of Pediatrics, University of Vienna, Wahringer Gurtel 18-20, A-1090 Vienna, Austria

International Congress on Child Abuse and Neglect

2-6 September, Hamburg

Further details: PO Box 30-24-80 D-200, Hamburg 36, Federal Republic of Germany

The Neonatal Society

1 March, Royal Society of Medicine, London

13-15 July, St John's College, Cambridge
Further details: Dr Caroline Beardsmore, Department of Child Health, Clinical Sciences Building, Leicester Royal Infirmary, PO Box 65, Leicester LE2 7LX

Paediatric Research Society

30-31 March, Edinburgh

Further details: Dr John Osborne, Royal United Hospital, Combe Park, Bath BA1 3NG