"Trying, But Failing" — The Role of Inhaler Technique and Mode of Delivery in Respiratory Medication Adherence

Fulvio Braido, MD[a], Henry Chrystyn, PhD, FHEA, FRPharmS[b], Ilaria Baiardini, PhD[a], Sinthia Bosnic-Anticevich, BPharm(Hons), PhD[c,d], Thys van der Molen, PhD, MD[e], Ronald J. Dandurand, MD[f], Alison Chisholm, MSc[g], Victoria Carter, BSc(Hons)[h], and David Price, MD[i]; on behalf of the Respiratory Effectiveness Group *Genoa, Italy; Cambridge and Aberdeen, United Kingdom; Sydney, Australia; Groningen, The Netherlands; and Montreal, QC, Canada*

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Overall Purpose/Goal: To provide excellent reviews on key aspects of allergic disease to those who research, treat, or manage allergic disease.

Target Audience: Physicians and researchers within the field of allergic disease.

Accreditation/Provider Statements and Credit Designation: The American Academy of Allergy, Asthma & Immunology (AAAAI) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The AAAAI designates this journal-based CME activity for 1.0 *AMA PRA Category 1 Credit*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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Learning objectives:

1. To improve understanding of the discrete components within clinical care that contribute to "good" medication adherence.

2. To understand some of the characteristics of patients with asthma and COPD (and differences between) associated with preference for different inhaled treatment regimens.

3. To improve knowledge of how to tailor different treatment regimens (frequency of delivery, mode of delivery, delivery device) to individual patients.

4. To improve understanding of markers of suboptimal medication adherence that offer opportunity for intervention ahead of referral to specialist care.

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[a]Respiratory and Allergy Diseases Clinic, Department of Internal Medicine, University of Genoa, IRCCS AOU San Martino-IST, Genoa, Italy
[b]Research in Real Life, Cambridge, United Kingdom
[c]Woolcock Institute of Medical Research, University of Sydney, NSW, Australia
[d]Sydney Local Health District, Sydney, NSW, Australia
[e]Department of General Practice, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands
[f]Montreal Chest Institute & Meakins-Christie Laboratories, McGill University Health Centre, Montreal, QC, Canada
[g]The Respiratory Effectiveness Group, Oakington, Cambridge, United Kingdom
[h]Optimum Patient Care, Unit 5-6, Oakington, Cambridge, United Kingdom
[i]Centre of Academic Primary Care, University of Aberdeen, Aberdeen, United Kingdom

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Conflicts of interest: H. Chrystyn is on the board of and is director of Talmedica Ltd; has received consultancy fees from Almirall, AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Innovata Biomed, Meda, Napp Pharmaceuticals, Mundipharma, NorPharma, Norvartis, Orion, Sanofi, Teva, Truddell Medical International, UCB, and Zentiva; has received research support from Engineering and Physical Sciences Research Council and Medical Research Council; has received lecture fees from Almirall, AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Innovata Biomed, Meda, Napp Pharmaceuticals, Mundipharma, NorPharma, Norvartis, Orion, Sanofi, Teva, Truddell Medical International, UCB, and Zentiva; has received payment for developing educational presentations from Almirall, AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Innovata Biomed, Meda, Napp Pharmaceuticals, Mundipharma, NorPharma, Norvartis, Orion, Sanofi, Teva, Truddell Medical International, UCB, and Zentiva; and is owner of (with stock in) Inhalation Consultancy Ltd. S. Bosnic-Anticevich is on the Teva Devices Advisory Board; is on the Mundipharma Advisory Board; has received consultancy fees from Mundipharma; has received lecture fees from Teva, GlaxoSmithKline, and Mundipharma; and has received payment for the development of educational presentations from Teva. T. van der Molen has received consultancy fees from Boehringer Ingelheim, Teva, Mundipharma, and AstraZeneca; is employed by Universitair Medisch Centrum Goningen; has received research support from AstraZeneca and GlaxoSmithKline; has received lecture fees from Novartis, Teva, and AstraZeneca; and has received payment for developing educational presentations from Teva. R. J. Dandurand has received research support from Almiral, AstraZeneca, Boehringer Igelheim, Merck, and Novartis; has received lecture fees from Novartis; and has received payment for developing educational presentations from AstraZenenca D. Price is on the boards for Aerocrine, Almirall, Amgen, AstraZeneca, Boehringer Ingelheim, Chiesi, Meda, Mundipharma, Napp, Novartis, and Teva; has received

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Inhaled therapies are the backbone of asthma and chronic obstructive pulmonary disease management, helping to target therapy at the airways. Adherence to prescribed treatment is necessary to ensure achievement of the clinician's desired therapeutic effect. In the case of inhaled therapies, this requires patients' acceptance of their need for inhaled therapy together with successful mastery of the inhaler technique specific to their device(s). This article reviews a number of challenges and barriers that inhaled mode of delivery can pose to optimum adherence—to therapy initiation and, thereafter, to successful implementation and persistence. The potential effects on adherence of different categories of devices, their use in multiplicity, and the mixing of device categories are discussed. Common inhaler errors identified by the international Implementing Helping Asthma in Real People (iHARP) study are summarized, and adherence intervention opportunities for health care professionals are offered. Better knowledge of common errors can help practicing clinicians identify their occurrence among patients and prompt remedial actions, such as tailored education, inhaler technique retraining, and/or shared decision making with patients regarding suitable alternatives. Optimizing existing therapy delivery, or switching to a suitable alternative, can help avoid unnecessary escalation of treatment and health care resources. **(J Allergy Clin Immunol Pract 2016;4:823-32)**

Key words: *Adherence; Implementation; Initiation; Persistence; Inhaler device; Inhaler technique; Patient preference*

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Corresponding author: Fulvio Braido, MD, Respiratory and Allergy Diseases Clinic, Department of Internal Medicine, University of Genoa, IRCCS AOU San Martino-IST, Genoa, Italy. E-mail: fulvio.braido@unige.it.

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