



AUSTRALIAN & NEW ZEALAND SOCIETY OF RESPIRATORY SCIENCE INC.

BRONCHIAL PROVOCATION - ARE WE MEETING THE STANDARD?

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INTRODUCTION: The outcome of a bronchial provocation test can have a profound effect on a person's life choices. It is important, therefore, that test outcomes are consistent, no matter where that test is performed, or by whom. In reviewing our Histamine Provocation method, we surveyed the membership to ensure our revised protocol would be consistent with approaches used by other Respiratory Laboratories as well as with original published descriptions.

METHOD: A survey form was e-mailed to all ANZSRS members requesting 1 response per laboratory. The survey requested information regarding Protocol, Nebuliser type and Quality Assurance practices.

RESULTS: Survey responses were received from 5 New Zealand and 32 Australian Laboratories. Of those laboratories, 12 offered Histamine only, 8 Methacholine only, 5 Histamine plus Saline, 5 Methacholine plus Saline and 1 laboratory offered all three. The New Zealand respondents offered only Methacholine plus Saline. Four Australian laboratories reported having withdrawn Histamine Challenges.

Provocation methods reported to be in current use were:

	<i>Methacholine</i>	<i>Histamine</i>	<i>Saline</i>
Cockcroft / Hargreaves	4	10	-
Yan	5	7	-
Dosimeter	5	2	-
Anderson	-	-	13

Combining Methacholine and Histamine tidal breathing procedures the breakdown of nebulisers in use was Wright (7), Puritan Bennett Twin T (4), Ventstream (1), Hudson (1) and De Vilbiss 646 (1). For dosimeter protocols, Mefar (3), Sidestream (2), De Vilbiss #40 (3) were used. For the Yan procedure, De Vilbiss #40 (10) and #45 (2) were used.

We compared the outputs of the Wright, Twin -T, Mefar and Sidestream nebulisers. We recorded outputs of 0.23 ± 0.03 , 0.34 ± 0.02 , 0.51 ± 0.02 and 0.86 ± 0.04 ml/2 mins respectively at 7L/min.flow.

All protocol guidelines recommend regular checking of Nebuliser outputs. From the responses received 7 laboratories using Histamine and Methacholine reported checking their nebulisers 4 – 6 monthly, 8 every 1-3 months and 7 annually. 3 laboratories performed intermittent checks and 1 never checked. Two laboratories used the LiCl technique, the rest used weight to validate output.

There was good consistency in the reporting of results from Methacholine and Histamine tests. The reporting of Saline Challenges showed greater variability e.g. 7 laboratories reported PD15 and 5 reported PD20's.

CONCLUSION: With respect to Methacholine and Histamine Provocation testing most respondents are adhering closely to the original published protocols and we should be confident of getting the same result wherever the test is performed. With respect to Saline Provocation, however, the consistency of approach could be improved. Neither Methacholine (including Provocholine) nor Histamine are registered by TGA. Legally, they may only be used under the Authorised Prescriber Programme.

RECOMMENDATIONS: As a professional body, ANZSRS should consider:

1. Endorsing a standardised hypertonic saline protocol.
2. Developing guidelines addressing the legal and safety issues surrounding Methacholine and Histamine use.