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**Title:** Using induced sputum cell counts to guide management of difficult-to-treat asthmatics

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**Body:** Background An ERS task force has recommended phenotype-based management in asthma. Knowledge of airway inflammation helps guide physicians' decisions in difficult to treat cases where guideline-based treatments no longer apply. Aim We assessed how induced sputum cell count results influenced the management strategy of members of the North West Severe Asthma Network (NWSAN) Method 15 case summaries of physician diagnosed asthma (BTS step 3-5) were sent to members of NWSAN and their responses to a list of management options (figure) was noted. This was then repeated after differential cell count results.

Results Cases were phenotyped as eosinophilic (E;n=9), neutrophilic (N;n=3), mixed granulocytic (MG;n=1) and pauci-granulocytic (PG;n=2). In 63%, responses changed after sputum counts were revealed with greater agreement between physicians. More physicians changed their response when eosinophilia was present than without (67% V 55%). Table shows change in responses (post sputum result) with respect to steroid load.

Case no.	Phenotype	% respondents who increased steroid load	% respondents who reduced steroid load
1	MG	82	0
2	E	64	0
3	E	64	0
4	E	55	9
5	E	9	9
6	N	18	36
7	E	27	0
8	N	0	9

9	E	55	0
10	E	55	0
11	PG	18	18
12	E	73	0
13	N	0	64
14	PG	0	0
15	E	36	9

Conclusion Knowledge of sputum cell counts is a useful adjunct in the management of asthmatics, especially those with uncontrolled eosinophilia, in whom there was a trend towards increasing steroid load.