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Title: Can sniff nasal pressure (SNIP) measurement be used interchangeably or complementary to maximum inspiratory pressure (MIP) to ankylosing spondylitis (AS) patients?

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Body: Introduction: Previous studies have shown that respiratory muscle strength was reduced in AS patients. Sniff inspiratory manoeuvre is an easier way to evaluate inspiratory muscle strength, since it needs less coordination and seems to be complementary to MIP. Aims: The scope of our study was to test the implementation of SNIP manoeuvre in AS patients and compare the results with MIP, in order to find if SNIP can be used interchangeably or complementary to these patients. Methods: We recruited 44 AS patients and we performed MIP and SNIP manoeuvres. Data were then compared with the lower limits of normal for MIP and SNIP according to age and gender. Results: MIP gave a diagnosis of muscle weakness in 5 cases (11%) whereas SNIP in 3 cases (7%).

Comparison of MIP and SNIP measurements

		MIPact	MIPact	Total
		normal	low	
SNIP act	normal	37	4	41
SNIPact	low	2	1	3
Total		39	5	44

Despite the fact that we observe strong positive correlation between MIPact and SNIPact ($r = 0.7$), the two tests was in agreement (for weakness) in only one case

(Kappa coefficient=0.180, 95%CI=[-0.235,0.595]). Conclusions: Respiratory muscle function is compromised in a small percent of our AS patients. Agreement in patient classification between MIP and SNIP was poor. It seems that the these tests can be used complementary in order to increase diagnostic

precision.