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**Title:** Change in pulmonary function abnormalities in sarcoidosis over time: A review of 75 cases

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**Body:** Airflow obstruction is common on initial pulmonary function tests (PFTs) in Sarcoidosis. Little has been published about change in PFTs over time, or with treatment. We examined PFT change in patients diagnosed with Sarcoidosis over a 14 year period. 75 patients were included. Median follow-up was 5.1 years. Patients were divided into those treated prior to follow-up (n=39) and those not (n=36). Results are shown in table 1.

Absolute and centile values (baseline, follow-up and within-group differences)

Outcome	Presentation		Follow-up		Within-group difference		Between-group mean difference (95% CI)
	Untreated	Treated	Untreated	Treated	Untreated	Treated	
FEV1 (L)	2.83	2.61	2.77	2.38	-0.07*	-0.23*	0.16* (-0.05-0.37)
FVC (L)	3.66	3.40	3.65	3.31	-0.01*	-0.09*	0.08* (-0.17-0.34)
FEV1/FVC Ratio	77.4%	77.2%	76.2%	72.1%	-1.2%	-5.2%	4% (0.58-7.42)
FEV1 (centile)	35.5	25.5	50.9	38.3	15.5	13.0	2.64 (-8.56-13.85)
FVC (centile)	46.1	32.7	68.8	58.8	22.7	26.3	-3.39 (-17.28-10.50)
Ratio (centile)	34.4	35.7	34.7	28.5	0.3	-6.5	7.47 (-4.90-19.385)

\*L/year change

Treated patients tended to have greater deterioration of their PFTs. The difference was non-significant, except for a lower decline in FEV1/FVC ratio in those untreated. Previous research (Miller et al. Chest 2011; 139:52-59) suggests fixed ratio values are less accurate than percentile predicted; here, there was no statistical difference in percentile change between groups. Absolute FEV1 and FVC values declined in both

groups, though less in those untreated. Both groups showed greater than expected annual decline in FEV1 (Kerstjens et al. *Thorax* 1997;52:820-7), though both improved their percentile predicted values, with no significant difference in FEV1 or FVC change between groups.