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**Title:** 12 years of thoracic surgery for emphysema at The Royal Brompton Hospital

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**Body:** Lung Volume Reduction surgery (LVRS) improves symptoms, quality of life and survival in patients with heterogeneous emphysema and low exercise capacity. The operation remains underutilised despite recommendations in global and national guidelines. This may be because of concerns about morbidity, the risk of prolonged hospital stay and roughly 5% surgical mortality. We retrospectively reviewed all surgeries performed for emphysema at our institution from January 2000 to September 2012 to assess mortality, morbidity and efficacy in clinical practice.

Pre operative	Bilateral LVRS Mean(SD)n=23	Unilateral LVRS Mean(SD)n=81	Bullectomy Mean(SD)n=20	Brompton (Intracavity drainage and pleurodesis) Mean (SD)n=14
Age	57.9(5.2)	57.32(10.1)	49.2(12.1)	59.5(8.0)
Male %	91.3	74.1	75	85.7
FEV1%pred	25.9(12.1)	35.8(14.8)	51.4(20.2)	32.5(8.12)
FVC%pred	77.2(18.1)	84.5(19.4)	77.7(20.9)	76.9(23.7)
RV/TLC %	65.0(7.86)	58.4(10.5)	54.4(10.1)	61(10.4)
DLCOc%pred	65.0(7.86)	39.8(15.8)	55.0(20.3)	42.1(15.8)

Post operative				
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	Bilateral LVRS Mean(SD)	Unilateral LVRS Mean(SD)	Bullectomy Mean(SD)	Brompton (Intracavity drainage and pleurodesis) Mean(SD)
Length of stay (d)	21.37(24.1)	13.81(11.0)	13.1(21.2)	19(19.0)
90 day mortality %	21.7	0	0	0
%Change in FEV1	31.5(55.8)	26.9(37.4)	80.2(88.5)	19.3(33.8)
%Change in FVC	24.1(28.9)	12.3(26.7)	44.9(75.7)	8.3(26.7)
Change in RV/TLC	-12.7(12.1)	-8.0(10.3)	-18.2(17.3)	-12.3(23.6)
%Change DLCo	2.6(23.6)	11.3(31.9)	28.6(44.8)	-16.4(20.1)

Unilateral LVRS is associated with similar benefits and is a safer procedure than bilateral LVRS. More widespread application of the technique should be encouraged in patients with severe heterogeneous upper lobe disease with hyperinflation.