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## Pulmonary Physiology

**HYPOXIC VASOCONSTRICTION** In awake man, alveolar hypoxia results in regional pulmonary vasoconstriction. This tends to minimize the effects of local underventilation on systemic arterial oxygenation. The authors have shown that pulmonary vascular reactivity is decreased when cats are anesthetized with clinical concentrations of halothane, trichloroethylene, and diethyl ether. The present study examined the response to hypoxia of the isolated cat lung preparation in the presence of various concentrations of methoxyflurane (MOF). MOF alone produced a dose-dependent decrease in pulmonary vascular resistance. The increase in pulmonary vascular resistance normally observed in the presence of hypoxia (produced by administration of 5 per cent carbon dioxide and

3 per cent oxygen in nitrogen for three minutes) was attenuated following administration of MOF. Pulmonary vascular reactivity returned to control values when MOF was discontinued. The response was dose-dependent (0.2 per cent MOF produced a 59 per cent decrease in response; 0.5 per cent MOF produced an 80 per cent decrease in response; when concentrations greater than 1 per cent were administered no response was present). These data tend to confirm the observation that general anesthesia decreases the response to inhalational hypoxia. (Sykes MK, and others. *The effect of methoxyflurane on pulmonary vascular resistance and hypoxic pulmonary vasoconstriction in the isolated perfused cat lung. Br J Anaesth* 48: 191-194, 1976.)