A method of ventilating a patient comprises initially determining the class of the lungs of a given patient, selecting a pressure or flowrate inspiratory waveform and other ventilatory parameters like inspiratory pause and inspiratory time, among others, appropriate for that lung class, and then ventilating the patient with the selected inspiratory waveform and other ventilatory parameters. New ventilation inspiratory waveforms are provided which have been found to be advantageous for certain lung classes.