and oxygen transfer factor may limit exercise capacity in
disease. This relationship has been explored in 11 normal
subjects, 18 patients with sarcoidosis, and eight patients
with interstitial lung disease by varying the inspired \( O_2 \)
concentration at standard work loads and following the
arterial \( O_2 \) saturation by means of an ear oximeter.

In normal subjects the relationship between inspired
\( O_2 \) or alveolar \( O_2 \) and arterial saturation is a curve of
increasing steepness at lower \( O_2 \) pressures. In all but
one of the patients with sarcoidosis a curve indistinguish-
able from normal was found. The radiographic appear-
ces in these patients ranged from hilar gland enlarge-
ment to diffuse changes in the lungs. In all the patients
with interstitial disease, the curve was displaced to the
right, and it was possible in six patients to determine the
increase in inspired \( O_2 \) necessary to maintain the
resting \( O_2 \) saturation unchanged.

This procedure may provide the basis for a simple
bloodless test for the detection of the onset of impairment
of oxygen transfer in disease.

**Hyperventilation of Pregnancy**

J. E. UTTING and E. T. FADL. In pregnancy, and more
especially in labour, there is a considerable hypocapnia
due to active pulmonary hyperventilation. There is,
however, a concomitant metabolic acidosis, and arterial
blood \( pH \) usually lies within the limits of normality for
the non-pregnant state.

Though there is general agreement in the literature
that blood lactic acid concentrations rise in hypocapnia
and alkalosis there is no agreement on the degree of this
rise nor on the mechanism of its production. Pregnancy
and labour provide a unique opportunity to study this
problem, since there is prolonged hypocapnia without
alkalaemia in a physiological context.

In this study blood lactate concentration has been
measured in samples of arterialized venous blood using
an enzymatic method in pregnant patients, some of
whom were in labour, and these values were compared
with those from volunteers engaging in active hyper-
ventilation for short periods.

The results indicate that the physiological hypocapnia
of pregnancy is accompanied by near normal concen-
tration of lactic acid and confirms suggestions that the
respiratory muscles are unlikely to be a major source of
this acid.

**Intra-Bronchial Colour Photography**

P. STRADLING. The time needed to ensure the best
conditions for photography is considerably longer than
is usually taken for routine bronchoscopy. Therefore,
under general anaesthesia with relaxation, special
methods of ventilation must be used to ensure oxygrena-
tion and low \( CO_2 \) levels. Some methods used at present
to achieve satisfactory photography and adequate
ventilation are critically discussed together with sugges-
tions for future improvement. The paper is illustrated
by photographs of endo-bronchial anatomy and patho-
logy to demonstrate their teaching value.