AErrane

isoflurane

The established,
cost effective inhaled anaesthetic
with proven safety profile
and ideal when a slower recovery
is required

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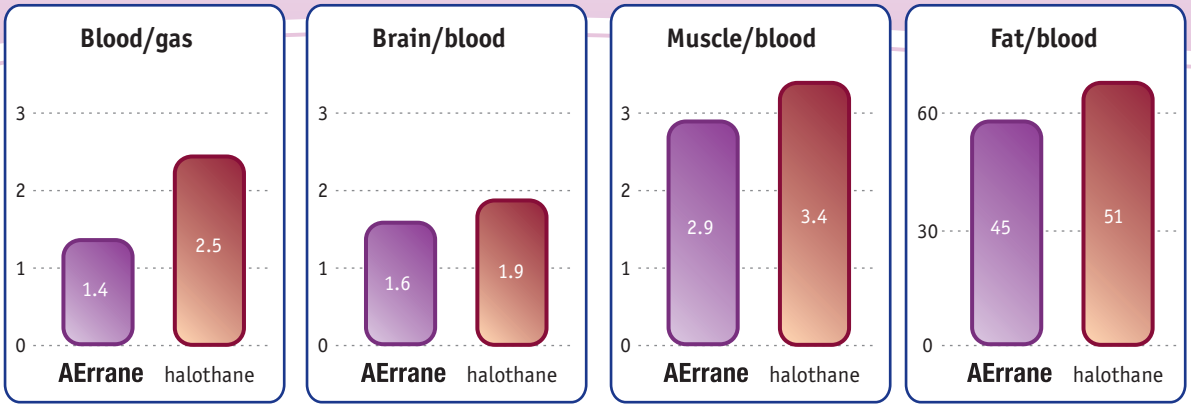
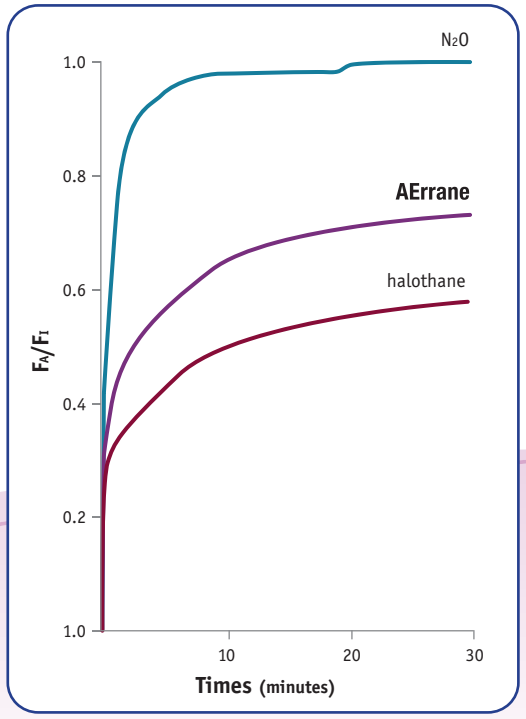
isoflurane

Lower solubility in blood and tissues when compared to halothane [1]



Lower blood/gas and tissue/blood partition coefficients of AErrane compared to those of halothane ensure:



- Fast wash in [2]
- More rapid adjustment of depth of anaesthesia when compared to halothane or enflurane [3]
- Fast recovery from anaesthesia [3]

Alveolar end-tidal/inspired anaesthetic concentration (FA/FI) ratios illustrate the faster entry of Aerrane to the lungs compared with halothane.
(Adapted from Yasuda et al, 1991.2)

AErrane an advantageous and proven safety profile that ensures:

- Minimal depressant effect on myocardial function, cardiac output and tissue perfusion [3, 4]
- Minimal tendency to induce arrhythmias [3, 4]
  - The cardiovascular margin of safety is greater than that found with halothane or enflurane [3]
- Only 0.17% is metabolized, compared to 20% in the case of halothane [5, 6]
- Minimal effect on the synthesizing activity of the liver during prolonged anaesthesia [7]
  - The resistance of AErrane (isoflurane USP) to biodegradation may explain the minimal or absence of hepatotoxicity and nephrotoxicity [5]
- Less PONV (post operative nausea and vomiting) compared with halothane [8]
  - Post operative emesis was significantly less frequent with AErrane compared to halothane (36% vs 46% $p<0.025$) [8]
- Up to three times more effective than halothane in enhancing non-depolarizing muscle relaxants [3]
  - Skeletal muscle relaxation was extremely good, without excessive cardiovascular depression and the action of the neuromuscular blocking agents was markedly potentiated [9]

The MAC (Minimum Alveolar Concentration) values for different age groups for AErrane:

Age	O_2 (100%)	O_2+ N_2O (60%)
Neonates	1.60	-
1-6 months	1.87	-
7-11 months	1.80	-
3-5 years	1.62	-
6-10 years	1.40	0.58
10-15 years	1.16	0.53

Age	O_2 (100%)	O_2+ N_2O (70%)
26 ± 4	1.28	0.56
44 ± 7	1.15	0.50
64 ± 5	1.05	0.37

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AErrane prescribing information

Presentation: Amber glass bottle containing 100 or 250ml of isoflurane, supplied as pure drug substance. AErrane is a volatile liquid for administration by inhalation. Store in an upright position with cap firmly in place. Store below 30°C.
Indications: AErrane is a volatile halogenated anaesthetic for general inhalation anaesthesia.
Dosage: AErrane should be administered by trained anaesthetists using a specific vaporiser designed for AErrane. MAC is age specific and decreases with increasing age.
Induction: Inspired concentrations of 1.3-3.0% usually bring about surgical anaesthesia within 7-10 minutes.
Maintenance: Surgical anaesthesia may be sustained using a concentration of 1.0-2.5% with the simultaneous administration of nitrous oxide and oxygen. AErrane at 1.5-3.5% may be required if administered with 100% oxygen.
Contraindications: AErrane should not be used in patients in whom general anaesthesia is contraindicated, in patients with known hypersensitivity to halogenated agents, or in patients with known or genetic susceptibility to malignant hyperthermia. AErrane should not be used in patients in whom liver dysfunction, jaundice or unexplained fever, eosinophilia or leucocytosis has occurred after a previous halogenated anaesthetic administration. AErrane should not be used in obstetric operations or with non-selective MAO inhibitors (see 'Interactions').
Precautions: AErrane may cause sensitivity hepatitis in patients who have been sensitised by previous exposure to halogenated anaesthetics. Cirrhosis, viral hepatitis or other pre-existing liver disease can be reason to select an anaesthetic other than a halogenated anaesthetic. AErrane is a profound respiratory depressive agent whose effect is accentuated by narcotic premedication or concurrent use of other respiratory depressants. AErrane should be administered with caution to patients who can develop bronchoconstriction since bronchospasms or laryngospasms can occur. In the case of patients who have undergone abortus provocatus, an increased loss of blood has been found. AErrane, like some other inhalation anaesthetics, can react with desiccated carbon dioxide adsorbents to produce carbon monoxide, which may result in elevated levels of carboxyhaemoglobin. AErrane should be used with caution in patients with myasthenia gravis. It is recommended that ventilation be controlled in neurosurgery patients as cerebral blood flow tends to rise in deep anaesthesia. There may be a transient rise in intracranial pressure, which may be averted or abolished by hyperventilation. During the induction of anaesthesia in children, laryngospasm can occur. Insufficient information is available for use in pregnancy or obstetrics other than a Caesarean section. Breast-feeding should not be given for up to 12 hours after the termination of anaesthesia.
Side-effects: AErrane can cause malignant hyperthermia. AErrane may cause dosedependent cardio-respiratory depression. Shivering, nausea, and vomiting have been observed. Disturbance in liver function, icterus, and liver damage have been observed. Transient elevations in white blood cell count have been observed. Rashes have also been observed. AErrane can cause arterial hypotension depending on the dose and can also cause an increase in heart rate possibly leading to serious ventricular rhythm disorders. AErrane can cause an irritating action on the mucous membranes during induction, which can cause coughing, respiratory depression, and a tendency toward laryngospasm. An adequate period of 24 hours is needed to ensure full recovery.
Interactions: Treatment with non-selective MAO inhibitors should be stopped 15 days prior to surgery. Beta-sympathomimetics and alpha- and betasympathomimetics can cause a risk of serious ventricular arrhythmia. Beta-blockers can cause a risk of blockage of the cardiovascular compensation mechanism as a result
of which negative inotropic effects are intensified. Treatment with isoniazid should be suspended one week before the operation and not resumed until 15 days afterward to avoid potentiating the hepatotoxic effect. Epinephrine should be limited to 0.1mg in a 10-minute period or 0.3mg within one hour in adults. Indirect sympathomimetics should be interrupted for a few days before the operation to avoid an intraoperative hypersensitivity episode. Calcium antagonists along with AErrane can lead to marked hypotension. AErrane potentiates commonly used muscle relaxants. Lower doses of AErrane are required in those receiving opioids, benzodiazepines, other sedatives, and nitrous oxide.
Overdose: In the event of overdosage or what may appear to be an overdosage, stop AErrane, establish a clear airway and initiate assisted or controlled ventilation with pure oxygen. Support and maintain adequate haemodynamics.
Packs: AErrane 100 and 250ml amber glass bottles.
Date of preparation and last revision: June 2002.

Countries may have regulatory requirements or medical practices which are different and may require reference to different or additional information. Therefore, the information may not be appropriate for your country.
Please read local prescribing information/summary of product characteristics before use.

References

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