Person—fraction of inspired oxygen, N.NN

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# Person—fraction of inspired oxygen, N.NN

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| Identifying and definitional attributes |
| Metadata item type: | Data Element |
| Short name: | Fraction of inspired oxygen |
| Synonymous names: | FiO2 |
| METEOR identifier: | 320431 |
| Registration status: | [Health!](https://meteor-uat.aihw.gov.au/RegistrationAuthority/14), Recorded 14/07/2006 |
| Definition: | Fraction of inspired oxygen in a person’s arterial blood gas. |
| Data Element Concept: | [Person—fraction of inspired oxygen](https://meteor-uat.aihw.gov.au/content/320426)  |
| Value Domain: | [Fraction N.NN](https://meteor-uat.aihw.gov.au/content/320428) |

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| Value domain attributes |
| Representational attributes |
| Representation class: | Ratio |
| Data type: | Number |
| Format: | N.NN |
| Maximum character length: | 3 |
|   | **Value** | **Meaning** |
| Supplementary values: | 9.99  | Not stated/inadequately described  |

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| Data element attributes  |
| Collection and usage attributes |
| Guide for use: | Range 0.21 to 1.00 Units of measurement are %÷100 to 2 decimal places. |
| Source and reference attributes |
| Submitting organisation: | ANZICS Database Management Committee |
| Reference documents: | Knaus WA, Draper EA, Wagner DP, Zimmerman JE. APACHE II: a severity of disease classification system. Crit Care Med 1985;13:818-828.Le Gall J-R, Lemeshow S, Saulnier F. A new simplified physiology score (SAPS II) based on a European/North American multicenter study. JAMA 1993;270:2957-2963. |
| Relational attributes |
| Implementation in Data Set Specifications: | [Intensive care DSS](https://meteor-uat.aihw.gov.au/content/316130)[Health!](https://meteor-uat.aihw.gov.au/RegistrationAuthority/14), Recorded 14/07/2006***DSS specific information:*** Used in the calculation of APACHE II, APACHE III, and SAPS II scores.The APACHE II and APACHE III algorithm for oxygenation uses the alveolar-arterial (A-a) gradient value for scoring when the FiO2 is 0.50 or greater. Use the lowest PaO2 score only if the FiO2 is less than 0.5.SAPS II uses the PaO2 / FiO2 ratio for scoring if the patient is ventilated or on continuous positive airway pressure (CPAP).The calculation of A-a gradient uses the formula:A-a gradient = 713 x FiO2 – PaO2 – PaCO2All variables used in the calculation of the A-a gradient must come from the one blood gas sample.APACHE III, APACHE II and SAPS II requirements:For patients with assisted breathing, the fraction of inspired oxygen is read from the controlled oxygen source. E.g., Venturi masks, ventilator and CPAP systems with calibrated oxygen blenders. For patients breathing unassisted, i.e., room air, the FiO2 is recorded as 0.21.If a patient is on an uncontrolled oxygen source, the table below allows for the conversion of oxygen flow in L/min to FiO2.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  O2 (L/min) | 1 | 2 | 3 | 4 | 5 | 6 | 8 | 15 | 15\*Reservoir mask |
| FiO2 | 0.23 | 0.25 | 0.27 | 0.30 | 0.35 | 0.40 | 0.45 | 0.50 | 0.70 |

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