

## Remifentanil

|                                    |  |
|------------------------------------|--|
| <b>Indication</b>                  | Facilitate mechanical ventilation  |
| <b>Dose</b>                        | 3 - 24 microgram per kg per hour.<br><br>Doses can be titrated upwards at a rate of 1.5microgram/kg/hour every 5minutes if necessary   |
| <b>Preparation</b>                 | <b>Standard strength (100microgram per ml)</b><br><ol style="list-style-type: none"> <li>1. Reconstitute a 5mg vial of remifentanil with 5ml Water for Injection</li> <li>2. Draw the resulting solution into a 50ml syringe</li> <li>3. Make up to 50ml with sodium chloride 0.9%</li> </ol>  |
| <b>Administration</b>              | Can be administered via a peripheral or central line   |
| <b>Shelf-life</b>                  | 24hours at room temperature  |
| <b>Common Compatibility Issues</b> | Remifentanil is considered compatible with crystalloids, aminophylline, dobutamine, midazolam when used at standard UHDB ICU concentrations.<br><br>Consult unit compatibility chart for more information.   |
| <b>Additional information</b>      | <b>Remifentanil must only be given by infusion.</b><br><br>Doses above 12microgram per kg per hour are rarely needed. Patients requiring such doses need medical review.<br><br>As an ultra-short acting opiate, alternative analgesia must be given sufficiently early before stopping the infusion.<br><br>Weaning from remifentanil requires close monitoring. The infusion should be reduced to 6microgram per kg per hour over at least 60minutes. After extubation, the dose of remifentanil should be reduced by 25% every 10minutes until it is off completely.<br><br>If given peripherally (or as the sole infusion on a central line lumen) the cannula should be aspirated after stopping the infusion to reduce the risk of bolus remifentanil administration.<br><br>Remifentanil is usually only co-administered with other short acting sedative agents such as propofol. It is extremely unusual to co-administer with midazolam. |

|                     |   |                              |                                   |
|---------------------|---|------------------------------|-----------------------------------|
| <b>Sample Label</b> | <b>DRUGS ADDED TO THIS INFUSION</b>                     |                              |                                   |
|                     | PATIENT<br>A. Patient (A. Number)                       |                              | WARD<br>ICU                       |
|                     | DRUG<br>Remifentanil<br>in 50ml sodium chloride<br>0.9% | AMOUNT<br>5mg<br>(100mcg/ml) | ADD<br>BY                         |
|                     | DATE ADDED<br>TIME ADDED                                | EXP. DATE<br>EXP. TIME       | CHECKED<br>BY<br><br>BATCH<br>No. |

## Remifentanil Dose Checker

(Only for use with 100microgram per ml Infusions)

All rates are in ml per hour.

| Ideal Body Weight (kg)  | Dose of remifentanil in micrograms per kg per hour |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
|---|--|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|   | Increasing sedative effect →                       |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
|   | 3  | 4.5  | 6    | 7.5  | 9    | 10.5  | 12    | 13.5  | 15    | 16.5  | 18    | 19.5  | 21    | 22.5  | 24    |
| All rates below in ml per hour<br>(Only valid for 100microgram per ml solution) |  |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| <b>45</b>   | 1.35   | 2.03 | 2.70 | 3.38 | 4.05 | 4.73  | 5.40  | 6.08  | 6.75  | 7.43  | 8.10  | 8.78  | 9.45  | 10.13 | 10.80 |
| <b>50</b>   | 1.50   | 2.25 | 3.00 | 3.75 | 4.50 | 5.25  | 6.00  | 6.75  | 7.50  | 8.25  | 9.00  | 9.75  | 10.50 | 11.25 | 12.00 |
| <b>55</b>   | 1.65   | 2.48 | 3.30 | 4.13 | 4.95 | 5.78  | 6.60  | 7.43  | 8.25  | 9.08  | 9.90  | 10.73 | 11.55 | 12.38 | 13.20 |
| <b>60</b>   | 1.80   | 2.70 | 3.60 | 4.50 | 5.40 | 6.30  | 7.20  | 8.10  | 9.00  | 9.90  | 10.80 | 11.70 | 12.60 | 13.50 | 14.40 |
| <b>65</b>   | 1.95   | 2.93 | 3.90 | 4.88 | 5.85 | 6.83  | 7.80  | 8.78  | 9.75  | 10.72 | 11.70 | 12.68 | 13.65 | 14.63 | 15.60 |
| <b>70</b>   | 2.10   | 3.15 | 4.20 | 5.25 | 6.30 | 7.35  | 8.40  | 9.45  | 10.50 | 11.55 | 12.60 | 13.65 | 14.70 | 15.75 | 16.80 |
| <b>75</b>   | 2.25   | 3.38 | 4.50 | 5.63 | 6.75 | 7.88  | 9.00  | 10.13 | 11.25 | 12.38 | 13.50 | 14.63 | 15.75 | 16.88 | 18.00 |
| <b>80</b>   | 2.40   | 3.60 | 4.80 | 6.00 | 7.20 | 8.40  | 9.60  | 10.80 | 12.00 | 13.20 | 14.40 | 15.60 | 16.80 | 17.80 | 19.20 |
| <b>85</b>   | 2.55   | 3.83 | 5.10 | 6.38 | 7.65 | 8.93  | 10.20 | 11.48 | 12.75 | 14.03 | 15.30 | 16.58 | 17.85 | 19.13 | 20.40 |
| <b>90</b>   | 2.70   | 4.05 | 5.40 | 6.75 | 8.10 | 9.45  | 10.80 | 12.15 | 13.50 | 14.85 | 16.20 | 17.55 | 18.90 | 20.25 | 21.60 |
| <b>95</b>   | 2.85   | 4.28 | 5.70 | 7.13 | 8.55 | 9.98  | 11.40 | 12.82 | 14.25 | 15.68 | 17.10 | 18.53 | 19.95 | 21.38 | 22.80 |
| <b>100</b>  | 3.00   | 4.50 | 6.00 | 7.50 | 9.00 | 10.50 | 12.00 | 13.50 | 15.00 | 16.50 | 18.00 | 19.50 | 21.00 | 22.50 | 24.00 |
| <b>105</b>  | 3.15   | 4.73 | 6.30 | 7.88 | 9.45 | 11.03 | 12.60 | 14.18 | 15.75 | 17.33 | 18.90 | 20.48 | 22.05 | 23.63 | 25.20 |
| <b>110</b>  | 3.30   | 4.95 | 6.60 | 8.25 | 9.90 | 11.55 | 13.20 | 14.85 | 16.50 | 18.15 | 19.80 | 21.45 | 23.10 | 24.75 | 26.40 |

## Documentation Controls

|                           |  |
|---------------------------|--|
| Development of Guideline: | Pharmacist – Critical Care & Theatres  |
| Consultation with:        | Pharmacy Department, Critical Care Nursing & Medical teams   |
| Approved By:              | Adult Drug Monograph Process<br>Written/Reviewed by Munthar Miah December 2023<br>Checked By: Tien Vu December 2023 & James Hooley, Med Safety Pharmacist Dec 2023 |
| Review Date:              | December 2026  |
| Key contact:              | Pharmacist – Critical Care & Theatres  |

## References

BMA & Pharmaceutical Press. British National Formulary September 2023.  
<https://www.medicinescomplete.com/mc/bnf/current/index.htm> Accessed December 2023.  
Summary of Product Characteristics. <http://www.emc.medicines.org.uk>. Accessed December 2023  
Trissel, L.A. Handbook on Injectable Medicines 18<sup>th</sup> Edition.  
<https://www.medicinescomplete.com/mc/hid/current/index.htm> Accessed December 2023.  
Brayfield A (ed), Martindale: The Complete Drug Reference. [online] London: Pharmaceutical Press <<http://www.medicinescomplete.com/>> (Accessed December 2023).  
UKCPA. Minimum Infusion Volumes for Fluid Restricted Critically Ill Patients. 4<sup>th</sup> Edition (December 2012).

\*\*\* End of Monograph \*\*\*