Worked Examples:

Figures show portions of graphical reports at either full or reduced scale.

**Example 1:** Recommended graphical report format. Time scale is at least 3cm per hour, vertical scale is 1mm per % saturation and poor signal quality is indicated by lines in the quality bar (see figure 2 below).

*Figure 2: Full scale oximetry study extract*

**Example 2:** Indication: Respiratory failure? Three month old with persistent tachypnoea (figure 2).

**Report:** “Nearly nine hours of recording available on a Masimo oximeter with two second averaging time. Some artefact is evident however recording is of adequate quality. Normal baseline (mean 98%) with multiple clusters of (brief) desaturations into the 70s and 80s. Oximetry suggestive of normal gas exchange with frequent intermittent events such as central or obstructive apnoea. Recommend referral for further evaluation (sleep study).”

This child had excessive periodic breathing with desaturation occurring during brief central apnoeas.
OXIMETRY

Example 3: Indication: Oxygen titration. Infant with Chronic Neonatal Lung Disease on 0.25 l/min oxygen at home (figure 3).

Report: “Nearly eleven hours of recording available on a Masimo oximeter with two second averaging time. Some artefact is evident however recording is of adequate quality. The baseline is normal (mean 99%) and above target saturations. No significant desaturation is seen. Consider repeating study on 0.125l/min oxygen. Please return infant to 0.25l/min until the oximetry on the lower flow rate has been reviewed.”


“Nearly eight hours of recording available on an oximeter with two second averaging time. A half hour break at 23:30 but otherwise the recording is of adequate quality. Study shows a reduced baseline (mean 92%) but no significant desaturations. Suggest clinical review and consideration for respiratory support.”
OXIMETRY

Example 5: Indication: Hypoventilation? Adolescent with Duchenne’s Muscular Dystrophy, severe restrictive lung disease and occasional morning headaches (figure 5).

“Over nine hours of recording available on an oximeter with two second averaging time. Recording is of adequate quality. The baseline is 96% (satisfactory) however both clusters of brief desaturation and periods of sustained hypoxia are evident. This may represent hypoventilation or obstructive events during REM sleep. Urgent review and consideration for intervention (respiratory support) is recommended.”

Figure 5: Reduced scale oximetry study extract

Example 6: Indication: OSAS? Three year old with suspected obstructive sleep apnoea (figure 6).

“Nearly eleven hours of recording available on an oximeter with two second averaging time. While periods of poor signal quality are noted the overall recording is of adequate quality. The saturation baseline is normal (100%) however multiple clusters of brief desaturation are evident with nadir in the 60s, 70s and 80s. McGill score 4, consistent with severe obstructive sleep apnoea. Urgent review and consideration for intervention is recommended. This child should be considered at higher perioperative risk.”

Figure 6: Reduced scale oximetry study extract