Standard Operating Procedure for the use of the Oxehealth Oxevision and Oxevision Observations

Revision Chronology		
Version Number	**Effective Date**	**Reason for Change**
V1	26/03/2020	
V2	22/05/2020	Added seclusion
V3	05/11/2020	Added CAMHS services
V4	01/03/2021	Added Older Adults and 136 Suites
V5	20/04/2021	Added Privacy and Dignity
V6	07/06/2021	Added updates
V7	08/09/2021	Added competencies
V7.1	05/10/2022	Reviewed and fit for current use
V8	28/10/2022	Full document content and Consent process reviewed
V9	31/10/2023	Full document content and Consent process reviewed
V9.1	14/11/2023	Update repeat alert functionality (page 5), change 'should' to 'must' in patient communication process, and removed reference to 'Reduce disturbance' as a benefit of Oxevision use.
V10	31/05/2024	Consolidation of Oxevision v9.1 and Oxevision Observations v1.1 with six month review

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SECTION 1 OXEVISION

1.1 Oxevision Introduction

This Standard Operating Procedure details the processes to be followed when using the Oxehealth's Oxevision system (Vision based patient monitoring). The system incorporates vital signs software registered in the UK and Europe with Medicines and Healthcare products Regulatory Agency (MHRA) as a class IIa medical device.

Oxevision is a fixed-installation device for use within single occupancy inpatient rooms and secured environments where a framework exists mandating periodic checks by a trained professional to ensure patient safety.

The Oxevision system uses an infrared sensitive camera and illuminators in individual bedrooms, which are linked to an interface at the nurse station in the form of a dedicated Oxevision fixed monitor and on portable tablets.

This Standard Operating Procedure details how the Oxevision system (vision-based patient monitoring) is used as assistive technology in our patient care practices to support clinicians as an assistive tool whilst patients are in their bedroom areas, seclusion rooms, and Health Based Places of Safety (HBPoS) where the system is installed in the Trust.

Oxevision has been introduced in EPUT across selected inpatient wards, seclusion rooms and Health Based Places of Safety (HBPoS) to enhance and improve patient care and safety in order to:

- Reduce the risk of self-harm, incl. ligatures
- Identify periods when patients may spend prolonged times in bathrooms and blind spots
- Reduce the risk of multiple people in a room at one time
- Provide patient-centric reporting to support patient care planning
- Enhance a preventative awareness for patient risk associated to falls

Please note that the Oxehealth Oxevision Standard Operating Procedure (SOP) compliments the Trust's CLP8 Therapeutic Engagement and Supportive Observation Policy, and does not replace it.

1.2 System Functionality

Oxevision incorporates class IIa vital signs medical device software that supports the observations of a patient by providing spot check pulse and breathing rate observations and is compatible with all skin types.

- **Out of room** – An alert is raised if the patient leaves the bedroom through the main door.

- **In bathroom** – A warning is raised to indicate the patient has left the bedroom and entered the bathroom / ensuite area, which will escalate to an alert after 3 minutes of no activity with a re-alert occurring every 3 subsequent minutes until the patient is verified as out of the bathroom. At 3 minutes the warning will convert to an alert with audible and red tile activation. Staff must conduct an in-person patient check before the alert is reset by the staff member.
- **In blind spot** – A warning is raised to indicate a patient is loitering in a known blind spot.
- **At door** – A warning is raised after 30 seconds a patient is loitering in the main doorway area.
- **Room entry** – A visual warning is raised when a second person enters an occupied room.
- **No Activity detection** – No Activity alerts are designed to notify staff when the system has not detected sufficient movement, in an occupied room within the previous 50 seconds. No Activity alerts can be switched on for seclusion, long term segregation (LTS), and HBPoS i.e. where staff are responsible for a vulnerable person who is being cared for or observed in a locked room.
- **Edge of bed** – An alert is raised where a patient is identified as being at the edge of bed.
- **Leaving bed** – An alert is raised when Oxevision detects that an individual is making movements that indicate that they are preparing to get out of bed.
- **In monitored area or Monitored area empty** – where applicable due to blind spots near doors, the 'In monitored area' feature converts to a warning of 'Monitored area empty' when a patient enters a non-monitored area of the room. The door top alarms, where fitted, will still be triggered when the door is opened. "Monitored area" is that area in a room that is outside of the camera range. Examples may include directly under the Oxevision housing.

The above Oxevision alerts and warnings will vary according to the specific requirement of the ward or service.

1.3 Purpose

The Oxevision system within EPUT Inpatient Bedrooms, Seclusion and Health Based Places of Safety (HBPoS) will monitor:

i) **Activity alerts** – Real-time alerts for when a patient is on the edge of their bed and when they have left their bed during night time hours.

ii) **No Activity alerts -** No Activity alerts can be switched on for "secure rooms", i.e. where staff are responsible for a vulnerable person who is being cared for or observed in a locked room. Examples of secure rooms include seclusion, HBPoS and S136 rooms in mental health settings.

iii) **Alerts to early warning signs**– Real-time alerts when there are potential risk activities, for example; when someone remains in their bathroom for more than 3 minutes with a re-alert occurring every 3 subsequent minutes. Another example is when additional people are detected in an occupied room.

iv) **Vital signs measurements** – Spot measurements of pulse and breathing rate.

v) **Blind spot warning / In monitored area and out of monitored area** – Real-time warning when a patient is in a blind spot (identified at site survey stage or in room reconfiguration). "Monitored area" is that area in a room that is outside of the camera range. Examples may include directly under the Oxevision housing.

vi) **Activity and Vital Sign trend reports** – Timeline summary of patient activity detected in a room, including time in bed, in room (but not in bed) and out of room.

vii) **Replay last alert** – 10 minute video replay provided for the last alert to provide more information for staff (for example, to review an unwitnessed fall).

The Oxevision system is active at all times while activated for a room. Oxevision does not alert to early warning signs affecting pulse and breathing rates. Vital sign readings require an action by staff.

The Oxehealth Vital Signs device is indicated for use on humans 12-years of age or older with all skin types, who do not require critical care.

1.4 Training and Responsibilities

Training and Trust guidance are delivered in the following formats:

- All staff must be trained and receive confirmation of training on Oxevision and Oxevision Observations via Oxehealth Academy prior to attending the ward for their shift. Confirmation of training is received by the 100% pass completion of the respective Oxevision course and Oxevision Observations course quizzes.
- Microsoft Teams remote training or onsite training through an Oxehealth trainer during implementation
- Staff, including temporary, are required to annually complete the OLM Mandatory Training with completion status displayed in the Mandatory Training Tracker on the Trust Intranet.
- On the ward, all new Oxevision users will be briefed by an Oxevision champion or trained and competent staff member on the equipment, application, and relevant Trust standard operating procedures.
- All staff need to demonstrate competency and record that demonstration on a competency checklist.
    - The checklist must be completed annually in relation to mandatory training requirement.
    - If the staff member is bank or agency, completed competency checklist to be sent by administration support to the temporary staffing team.
    - If substantive staff member, completed competency checklist to be kept in staff file by their manager.
- Training in the use of Oxevision will be part of a staff member's local induction to the ward

- EPUT guidance for Oxevision and Oxevision Observations is available on the EPUT Intranet Oxehealth page.

Locally produced training materials are not authorised.

Trust Oxevision and Oxevision Observations training must include:

- The purpose of Oxevision is to support the EPUT CLP8 Therapeutic Engagement and Supportive Observation Policy.
- Oxevision is not CCTV. Use of Oxevision as CCTV is a breach of patient privacy and dignity.
- The Standard Operating Procedures for Oxevision and Oxevision Observations
- Ward level application of system and functionalities.
- How to use Oxevision and Oxevision Observations to conduct observation rounds, periodic observations, managing observations levels.
- Process for reporting data or hardware issues to the Oxehealth Support Desk.
- The urgency and process of requesting clear video data within a 24-hour window of a serious incident.
- How to inform patients and carers about the system and its use as part of patient care, including handling any concerns and objections.
- Ensure that sufficient observation tablets for the oncoming shift are charged to at least 70%.
- When tablets are not in a charging state, ensure external power adapters and cords are secured or a charging port is used.

1.5 Process

1.5.1 Patient, Carers, Friends and Family Communication

It is important to inform and raise awareness of the use of Oxevision and Oxevision Observations with patients and carers as well as patient and carer representative groups within an organisation.

Staff shall inform patients, relatives, carers, or a nominated person at the point of admission using the points below:

- Oxevision leaflet
- EPUT Welcome Pack
- A discussion

The manner by which patients, relatives, carers, or a nominated person are engaged and informed should have multiple touchpoints. For example:

- Every patient must be informed about the use of Oxevision and Oxevision Observations during the admission process and be provided with the relevant Oxevision leaflet and EPUT Welcome Pack. Staff must also have a conversation with relatives, carers, or a nominated person where appropriate.

- The admitting nurse will ensure the admission checklist evidences that an Oxevision and Oxevision Observations conversation between staff and patient has occurred.
- All Oxevision and Oxevision Observations related conversations must be recorded in the clinical record and care plan.
- Individual ongoing conversations with patients, relatives, carers, or a nominated person with nurses and/or doctors where the use of Oxevision and Oxevision Observations is required.
- Regular discussions during ward community meetings. Oxevision and Oxevision Observations should form part of the standing agenda to allow patients and members of the multidisciplinary team (MDT) to have open discussions.
- Patient discussions during ward review meetings regarding the use of Oxevision and Oxevision Observations.

Careful consideration must be paid to what and how information is provided to patients and carers, including the time and method of communication. This is not a "one-size-fits-all" model and must take into account the local variation in services as well as individual patients' preferences and choices.

Where Oxevision is installed, Trust signage regarding the use of the equipment must be displayed clearly in public areas within the building. (See Appendix 4 for patient poster)

Suggested resource: https://www.oxehealth.academy/courses/uk-talking-to-patients

1.5.2 Implicit Consent

Where Oxevision is installed, the system is continually switched on and monitored. Therefore all patients are opted in upon admission as part of the standard ward practice. The patient is encouraged to raise questions and concerns and there are regular opportunities for the patient to engage with staff. Objections can be raised at any time during the admission episode.

However if a patient refuses the use of the Oxevision system in their room, the responsible clinician must be informed. The system is not to be switched off until an Multi-Disciplinary Team (MDT) meeting within 72 hours has taken place. At the MDT meeting, the team will decide whether to withdraw the use of the assistive technology. If it is in the best interest of the patient, taking into account the balance with individual preference, safety management, mental capacity and any other areas of concern. The assessment needs to be open and with honest communication including the frequent reiteration of the existence and purpose of the system so staff can be sure that the patient's informed implicit consent remains in place. If the MDT agrees to switch the system off, the room can be individually isolated using the monitor to select 'Camera off' for that patient's bedroom.

The nurse in charge will action the MDT confirmation and ensure that standardised monitoring is in place as per Therapeutic Engagement and Supportive Observations Policy CLPG8. The clinical team are to revisit with the patient during ward reviews/MDT intervals regarding the use of the Oxevision system within their room.

If the MDT decision is to disable a room that decision must be documented within the patient's record, the care plan must be updated, and a Datix completed. Please see Appendix 1. During subsequent MDT reviews, the patient's position on the use of Oxevision will be assessed, reviewed, and documented. Should the patient, relatives, carers, or a nominated person and MDT agree to turn the Oxevision system back on, the nurse in charge will action the MDT confirmation.

When a patient asks for Oxevision to be switched on following approval by the MDT to switch off Oxevision in the patient's room, the nurse in charge will authorise Oxevision in the patient's room to be returned to an active state. The Oxevision reactivation must be communicated to all staff on the ward at the time of the reactivation, documented in the patient's clinical notes, and cited in the handover documentation. The MDT will be notified at the next MDT review of the change in room status.

Switching rooms off for another other purpose than MDT approved patient refusal is not permitted.

1.5.3 Use of Oxevision for Conducting Vital Sign Measurements

Specific vital signs function in the Oxevision system should not be used to replace physical health monitoring of clinical deterioration, use of National Early Warning Score (NEWS2) should be in place in order to record all necessary parameters and guide clinical decision making. Staff must record vital signs in relation to NEWS2 a minimum of every 12 hours. Refer to CG87 Clinical Guidelines on the Use of National Early Warning Scoring System (NEWS2) for applications of NEWS2.

If for any reason there is a technical failure / malfunction of the Oxevision system, then staff should continue to provide patient care without the support of the Oxevision system. There may be the requirement to review individual care plans during the period of technical failure to maintain their safety with alternative methods. The technical failure must be reported urgently through the routes detailed in section 1.6.1. Technical Support.

Staff remain responsible for patient safety and clinical judgement must be used at all times.

1.5.4 Patient Privacy and Dignity

Patient privacy and dignity are guiding principles for Oxevision system design. The user interface is designed by clinicians with this in mind. Oxevision Observations is used in support of the Therapeutic Engagement and Supportive Observation policy regarding levels of engagement and reporting. The likelihood of patients observing staff use of Oxevision on tablets is increased and therefore subject to increased awareness. Oxevision tablets should only be used for recording observations, vital signs, and responding to alerts and warnings and reviewing reports.

The system includes an infrared sensitive camera designed for staff to operate the system via a privacy screen to collect vital signs. The camera feature is not designed,

purposed, or should be used as CCTV or an alternative to direct physical confirmation of a patient's safe condition.

There are just two conditions where visual displays are available:

- During an alert (red tile, accompanied by audible and visual alerts). A live 15 second anonymised/blurred view is available. Until a reset is initiated, an alert remains audible and the anonymised/blurred view remains accessible. Remote viewing by camera does not negate the requirement for an in-person clinical assessment. Only when the in-person assessment is completed can an alert be reset.

- During a specific vital signs observation. A live clear image is viewable for the purpose of capturing vital signs. The camera will timeout after 15 seconds. Only initiate a vital sign observation when the tile is green and the patient status is 'In Room' or 'In Bed.' Do not attempt vital sign observations when the status tile is amber or red.

Ensuite bathrooms may have a digital mask to ensure patient privacy and dignity is maintained for the patient. Staff must, regardless of the technology available, ensure the patient's privacy and dignity at all times.

1.5.5 Patient Safety Incident reporting

Where the Oxevision system or camera and illuminators are installed in an inpatient environment and when an incident occurs (i.e. fall, medical emergency) then this must be clinically responded to immediately as per routine practice and without delay.

All such incidents will be reported using Datix the Trust's Incident reporting system. When reporting system specific incidents through Datix, please ensure to include the date, time, room number, device used, and details of the issue. Oxehealth cannot correct user-error, but may use Datix generated insights for potential system enhancements.

When reporting on Datix and asked 'Did the OxeVision system play a role in alerting staff to the incident?' only select Yes when Oxevision was involved in the alerting. That may include, but not be limited to, alerts (audible or visual), camera views, or vital signs. Enter the role Oxevision played in the comments.

1.5.6 Clear Video Data

Clear Video Data (CVD) is non-pixelated video footage that can be clipped and saved upon request if there is a situation that needs to be further investigated. The ward manager, nurse in charge (or their nominated deputies), site coordinator, and if out of hours, the On Call manager, can request the clipping of the clear video data. The request must be made directly to Oxehealth within 24-hours of the situation or incident by calling the Oxehealth support line on 0800 030 6781.

The requestor must provide their name, ward name, date and time of the CVD required, room number, and reason for the CVD request.

Upon receipt of a request, Oxehealth will clip and save CVD. Oxehealth will then seek authorisation from the named CVD approvers. Once authorisation has been granted, Oxehealth attend site to transfer the clipped CVD to a secure USB for delivery to The Lodge. An access PIN for the USB will be emailed to the Trust's designated recipient. The USB will be secured with the legal team for review and assessment. CVD must always be under the control of the legal department.

Clear video data will not be released directly to the ward and are managed via protocols governing the use of the data. (*Please contact the Legal team or Data Protection Officers (DPO) for further guidance*).

Clear video data is automatically deleted from the local Oxevision server (on EPUT sites) after 24 hours.

1.6 System Management

1.6.1 Technical Support

The Oxevision system is comprised of various interdependent technological elements. Some issues can be solved remotely through the Oxehealth support desk. Following are the methods for reporting issues, feature requests, and profile changes to Oxehealth:

- Email: support@Oxehealth.com
- Customer service phone line for urgent technical issues: 0800 030 6781
- Feedback can be sent via the monitor.
  (This information is displayed at all times on the Oxevision monitor)

Where onsite support is required from Oxehealth, attendance will be within the timeframe defined in Appendix 3.

Where Oxehealth are unable to resolve an issue remotely, meet on-site attendance criteria or an escalated priority, the Oxehealth service desk will initiate a service request with the EPUT IT Service Desk.

When the Oxevision system is unavailable, clinical staff are to ensure that the CLP8 Therapeutic Engagement and Supportive Observation Policy is applied.

1.6.2 Changes to Room Configuration

Oxehealth must be notified should the room configuration be altered including repositioning of the bed space. A failure to notify Oxehealth of configuration changes will have an adverse impact on Oxevision performance and accuracy.

NOTE: Movement of furniture a distance as small as 50cm can impact the system's accurate evaluation of a room configuration.

1.6.3 Downtime Notification Process

Any downtime which involves a disruption to the recording of observations via Oxevision will follow the process below:

- Approval will be required from CCIO, CNIO and CIO at least one week prior to the downtime.
- The BCP plan is to revert to paper for observation reporting.
- Communications (Comms) will be distributed to staff advising of the downtime as soon as possible to allow staff time to implement the BCP in a timely manner.

1.7 Review

This Standard Operating Procedure will be reviewed on a six-monthly basis to reflect the programme of installation of the Oxevision system across the inpatient services of the Trust.

SECTION 2 OXEVISION OBSERVATIONS

2.1 Oxevision Observations Introduction

Oxevision Observations is a digital observation module within the Oxevision system. The Oxevision Observations module is a digital version of the paper observations record which is found in the CLP8 Therapeutic Engagement and Supportive Observation Policy.

Oxevision Observations is implemented only on Oxevision equipped inpatient wards, seclusion rooms and HBPoS to enhance and improve patient care and safety in order to:

- Provide a clear record of observations in a digital format for integration to the electronic patient record
- Assist in the identification of trends
- Report on quality of engagement and observation activity

2.2 Administrative

2.2.1 Oxevision Observations Reports

Oxevision Observation reports are exported daily to designated email addresses via secure Egress email. Mandatory recipients are the ward manager, matron, and the OxeObs Backup shared inbox. Scanning teams are responsible for the upload of reports to the respective electronic patient record systems.

- Mobius-based wards observation reports are uploaded by automation or the Mobius scanning team.
- Paris-based wards observation reports are uploaded by the Paris scanning team.

For details on manually exporting a patient's observation history, refer to OxeAcademy user guide 'How to view and export a patient's Observation History.'

2.2.2 Oxevision Observations Patient Configurations

Activity	Authorised Staff
Set up patient profile	Ward manager, nurse in charge, matron, or designated qualified staff
Amend patient configuration profile	Ward manager, nurse in charge, matron, or designated qualified staff
Allocate patients to rooms	Ward manager, nurse in charge, matron, or designated qualified staff
Transfer patients	Ward manager, nurse in charge, matron, designated qualified staff, Oxevision Champion or competent health care assistant

Discharge patients	Ward manager, nurse in charge, matron, designated qualified staff, Oxevision Champion or competent health care assistant
Conduct observation rounds	Ward manager, nurse in charge, matron, designated qualified staff, Oxevision Champion, health care assistant, or competently trained staff
Export observation reports	Ward manager, nurse in charge, matron, or designated qualified staff
Daily review of observation history for shift	Ward manager, nurse in charge, or designated reviewer

2.3 Observation Management

When a ward encounters a situation where Oxevision or Oxevision Observations is or will be compromised**,** staff must revert to using paper-based observations supported by the Therapeutic Engagement and Supportive Observations Policy CLPG8. Immediately report the issue through Datix, escalate as shift appropriate, and report the issue to the Oxehealth Support Desk. A compromised condition is any factor that will diminish or cease the ward's access to WiFi or the Internet.

Oxevision has a feature that enables staff to continue recording observations when a low or no WiFi condition exists. If staff submit observations with low or no WiFi connectivity, observations will be held in the "Pending Observations" outbox until sufficient WiFi connectivity is established to allow the submitted observation(s) to be fully completed.

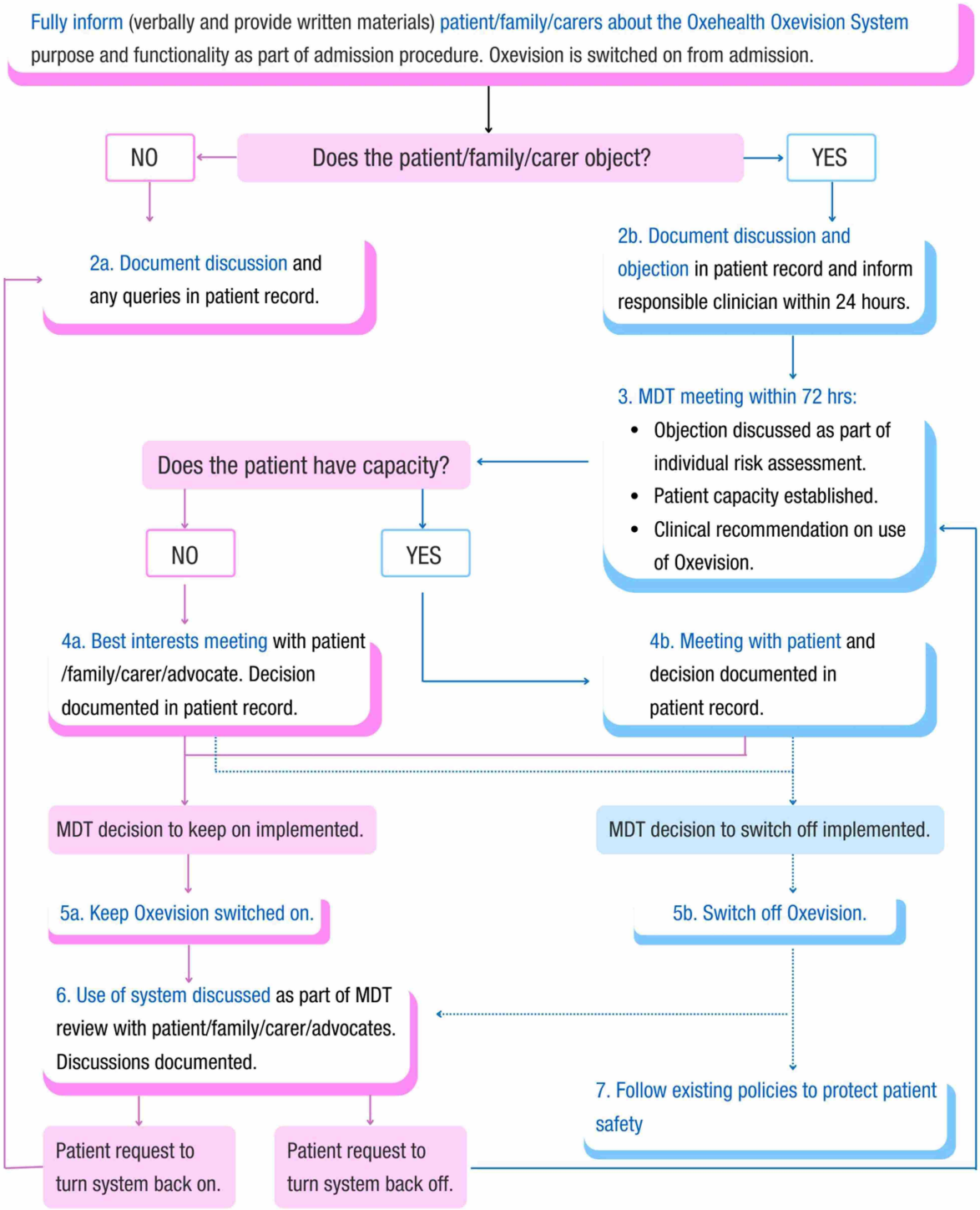
When observations are held in the "Pending Observations" outbox, the "Pending Observations" icon in the top right will display the number of observations that are pending. Selecting this icon will open the "Pending Observations" outbox which will display all observations that have not yet been submitted and the time that they were recorded.

Users can navigate away from the Oxevision Observations module and submission of any pending observations will be completed whenever WiFi connectivity is re-established. When WiFi connectivity is re-established, the "Successful, Observations submitted" notification will be displayed on the device that the observation was submitted.

2.4 Audits

The nurse in charge will check the completion of observations periodically during their shift and provide the assurance in the Clinical Guideline CG20 (Clinical Handover) and auditing process that all observations are completed as per CLP8 Therapeutic Engagement and Supportive Observation Policy.

Appendix 1: Oxevision Consent Flow Chart



Appendix 2: Oxevision & Oxevision Observations Record of Competency

Name		**Designation**	
Department		**Date:**	

Legend D=Discussion O=Observed

Competence	Evidence (where relevant)	Date Achieved	*Assessor Name/ Signature	Staff Name/ Signature
Have you completed the Oxevision and Oxevision Observation training on OxeAcademy? **(D)** *(2 x test – 100% pass)*				
Demonstrate an understanding of the purpose of Oxevision and Oxevision Observations, the equipment used and how it works **(D)**				
Demonstrate how to complete an Oxevision Engagement and Observation round **(D/O)**				
Describe when and how to inform patients, carers/family on the use of Oxevision **(D,O)**				
Confirm the process for managing patients that are refusing the use of Oxevision.**(D)** *(Please see for guidance Oxevision Consent Flow Chart)*				
Clearly detail to the assessor how to access the SOP (Standard Operating Procedure) **(D,O)**				
Describe the escalation process when Oxevision / Oxevision Observations is non-operational. **(D/O)** *(Instructions for Use, 24/7 support desk, feedback)*				
Demonstrate how to take a Vital Signs reading **(D/O)**				
Demonstrate to the assessor the process for recording and escalation of Vital Signs readings **(D,O)**				
Discuss the process for responding to an alert **(D/O)** *(always check the patient before manually resetting the Oxevision system by the "reset" button)*				
Demonstrate your understanding of the importance of documenting Oxevision findings, Datix reporting and the sharing of Oxevision information. **(D)**				

* Assessor must have completed the OxeAcademy trainings and have demonstrated competency.

Reviewer Name / Signed		**Designation**	

Appendix 3: Oxevision Patient Poster

oxevision

A tool to help staff care for you more safely

Oxevision technology is installed in all bedrooms

What Oxevision does

- Oxevision is a medical device that uses an infrared-sensitive camera to measure your pulse and breathing rate without disturbing you.
- It let's staff know when a second person enters your room.
- It sends notifications to staff and uses this information to help with your care (ask a member of staff for further information).
- Alerts staff when you have entered the bathroom and are out of range of the sensor.

Use of video: When can staff see you in your room?

- A clear image can be seen for up to 15 seconds only when checking your pulse and breathing rate.
- A blurred image can be seen for up to 15 seconds only when a notification has been received.

Have concerns or want to know more?

Please speak to the Ward Manager or Nurse in Charge

Privacy Notice in the use of person identifiable salient video data (SVD) – further information on your data rights and how the Trust uses your data can be found at: www.eput.nhs.uk. Alternatively, you can contact the Trust's Data Protection Officer at: epunft.DPO@nhs.net.