

COVID-19: Checklist and Guidance for management of Peritoneal Dialysis Programmes

This document provides supplementary guidance as to how to actualise the recent NICE rapid guideline for dialysis service delivery during the COVID-19 pandemic, NG160. For more general guidance on identifying, diagnosing, cohorting etc., refer to the parent document.

1. Dialysis at home as a preferred option

a. Keeping those already on PD home is a priority (NG160 10.1)

- i. Maintain adequate supplies and skilled staffing*
- ii. Assess resilience of Carers regularly*
- iii. Where available use remote monitoring technologies*

b. Consider PD, including urgent start, as a dialysis initiation option

- i. Share resources e.g. easy to use rapid template to assess feasibility of home dialysis; training materials*
- ii. Pathways for catheter placement.*

1. Ensure that surgical catheter placement is not viewed as 'routine' surgery.
2. Use Medical Insertion pathways (which do not require anaesthetic support and theatre space and time; un-published UKcath data is reassuring on Medical Insertions)
3. Consider Network level support for medical insertions

iii. Urgent Start:

1. Utilise acute start guidelines or adapt these (e.g. ISPD AKI guideline, Perit Dial Int 2014; 34(5):494, doi:10.3747/pdi.2013.00222)
2. Consider utilising expertise or support from neighbouring NHS teams or Industry-based Renal Therapy Specialists to educate on acute start PD the service (via networks)
3. Use of percutaneous catheter insertion.

c. Weigh up the risk of starting versus delaying start on a case by case basis.

This should include considering carefully the goals of dialysis treatment, prevention of emergency unplanned start, and service capacity issues.

2. Regional networking

a. Principles of working collaboratively (to include providers, commissioners and industry)

- i. NICE (NG160) recommends working in partnership with regional commissioning teams.* Regional operational networks have been set up and representatives nominated. Industrial partners should also be included given their essential role in home therapies, especially assisted services. Networks will oversee local capacity, supply chain
- ii. Regional networks should have home therapy representation.*
- iii. Each provider should have a designated COVID-19 lead and a designated Home Therapies lead with back-up co-leads in case of ill health.*

3. Communication

a. Information to patients

- i. Clear guidance on when and how they should contact and enter the unit (NICE guidance)
- ii. Clear guidance on what they should do and who they should contact if they suspect they have COVID-19.

b. Channels of communication

- i. Contact with patients (e.g. regular checking – weekly telephone call)
- ii. Contact with deliveries, assisted delivery teams
- iii. Where available, remote monitoring (e.g. ShareSource) would be utilised to support communication and streamline staff working.

4. Patient support

a. Living alone, social isolation

- i. A system of regular contact should be established – e.g. regular phone calls with patients, carers, tailored to need.

b. Working patients and employers

- i. Working patients may require specific advice or support in managing the expectations of their employers.

5. Staffing

- a. Staffing levels to be reported to the regional operational delivery network.
- b. Ensure that protocols are up to date and easily accessible
- c. The regional network will coordinate with industry to provide cross-cover
- d. Upskilling staff and re-defining roles.
 - i. Establish key roles such as home-delivery drivers, trained to collect samples or deliver antibiotic loaded PD fluid, emergency supplies.

6. Training

a. Home training

- i. Teams should consider how they can increase training capacity to manage a preference for home dialysis NG160.

b. Use of training facilities

- i. *Industry-based facilities:* consider the risk as well as the benefits. Social distancing must be observed.

7. Outpatient management (see 1.3 in NG 160)

- a. **Minimise face-to-face contact:** Telephone clinics as standard; where possible consider video conferencing tools such as Facetime, Whatsapp, Skype in light of recent changes in NHSX recommendations. This will require working with local IT departments but would allow visual inspection (e.g. of exit-sites).
- b. **MDT meetings** – weekly as minimum – can be held virtually.
- c. **Home visits.** Routine home visits should be suspended and replaced by regular telephone contact. When required for assisted PD ensure PPE and close communication with the centre and training (if required) to obtain samples, deliver medications and take photos/skype etc.

- d. DNR planning:** All patients should be reviewed to ensure that clear resuscitation plans are in place including suitability for resuscitation, ITU and end of life plans if appropriate
- e. Indications for face-to-face review.** Separate into COVID and non-COVID related and cohort as per NG 160.

8. Dialysis Prescription and Management

a. Consider incremental start (as per ISPD guidance)

- i. Consider risk-benefit of starting at all.
- ii. Use incremental dialysis when RKF present
- iii. Approaches to this are now described in the recent ISPD guideline

b. Consider CAPD for new starters (also see above 1b.)

- i. Most issues with APD are related to drain alarms and lost dwells in the first few weeks of therapy. Frequent changing of machines will put pressure on the suppliers.

c. Change dialysis regime as clinically indicated (as per ISPD guidance 2020)

- i. *Follow recent ISPD recommendations* for prescribing High Quality Goal Directed PD have de-emphasised over-reliance on solute clearance targets (Kt/V) and increased emphasis on symptom management, volume management and preservation of residual kidney function.
- ii. *Symptoms:* Dialysis dose increases can be undertaken in response to symptomatology without the need to check clearances (no single Kt/V target fits all people).
- iii. *Volume:*
 - 1. *Increasing breathlessness should prompt consideration of the possibility of COVID-19 infection* and may trigger appropriate investigations.
 - 2. *Use of hypertonic (3.86%/4.5%) exchanges* may well be preferable to urgent HD or modality switch. Units should keep a stock of these stronger solutions and consider making them available to selected patients.
 - 3. *Appropriate advice on fluid intake should be given as usual*, as well as consideration of the causes of poor fluid removal.
 - 4. Where available, use remote patient monitoring to identify and assess poor fluid removal.
- iv. *Residual Kidney Function:*
 - 1. This can be estimated from urine volume measurements
 - 2. Diuretic doses should be maximised to maintain urine volume (e.g. Furosemide 500mg daily, Bumetanide 5 mg daily).
- v. *Hyperkalaemia:*
 - 1. This is uncommon in PD patients
 - 2. Hyperkalaemia can usually be addressed with dietary advice, adding loop diuretics and withholding RAAS blockade where clinically appropriate.

d. Clearances and membrane function tests

- i. There is no need in the short term to undertake routine measurements of dialysis clearance or membrane function and this will free up time for front line staff.
- ii. Routine blood tests for K⁺ and urea will enable safe dialysis in most situations. The urea clearance can be estimated approximately by (weekly dialysate volume)/V in CAPD patients, and this value x 0.8 in APD patients. (V=Total Body Water derived from Watson formula).

9. PD supplies, deliveries and disposal of fluid

a. Delivery frequency, precautions and reassurance regarding national stock

- i. Industry is required to stock a large Pandemic Emergency Buffer Stock of IV and PD fluids by the Department of Health. There is a sufficient amount of stock based on current demand.
- ii. Consider 4 weekly deliveries
- iii. Delivery of fluid to patients represents a risk – transmission between patients and from patients to delivery staff.
- iv. Units can help support industry by:
 1. Identifying patients who can or cannot accept delivery to the doorstep
 2. Those that *must* have more frequent deliveries
 3. Identify patients/households that represent an infective risk (prior to a delivery)
 4. Escalate problems to the regional network (which can then pass on to the national team for resolution)

b. Home stock levels and deliveries. Where possible patients should maintain a minimal stock (e.g. 2 weeks supply)

c. Ancillary items, their use and advice (e.g. behaviours)

- i. Need to reassure individuals that stock will be best preserved if normal ordering patterns are maintained i.e. not stockpiling or over ordering alcohol gel.
- ii. NHS to maintain normal ordering patterns, supplier Customer Services will be reviewing all orders based on historical levels.

d. APD machines

- i. Given the a limited stock of *additional APD cyclers to meet a sudden increase in patient demand* commence on CAPD as default – will also reduce alarms and need for machine replacement.
- ii. APD Cyclers may be required for inpatients, assisted start (if feasible)

e. Disposal of PD fluid in the event of suspected COVID-19 infection

- i. *All fluids can be disposed of as normal (toilets, sluices) but precautions taken to avoid splash contaminations (PPE and visors) – applies to staff and family members*
- ii. *When COVID-19 infection suspected the plastic waste should be double-bagged and stored in a safe place for 3 days prior to disposal in the normal rubbish collection in line with DoH guidance*

10. PPE & Antibody Testing

a. Supply chains

- i. Problems to be reported and managed by the Regional Networks

b. Regional coordination

- i. Given the potential challenges in PPE supply, this should be coordinated regionally to ensure that patients and staff from all sectors are adequately protected on home visits. This should also apply to antibody testing when it becomes available.

11. Assisted PD

a. Reassess all patients regarding need and opportunities for home carer support and training opportunities

- i. This should respect shared decision making and may require retraining.
- ii. Currently there is very limited commercial capacity to support new patient referrals for assisted PD across the UK. It seems unlikely that there will be many situations where new patients requiring long-term assistance should be started on assisted PD, but flexible use to support new starters should be considered (e.g. when in-house provision possible).

b. Regional operational network planning to support the service working closely with industry

- i. Industry supports >80% of assisted PD. Problems with delivery should be reported to and managed by the regional operational delivery network.

c. Safe reduction of dialysis frequency in people with RKF on assisted PD

- i. Given the potential threat to staffing levels and the need to reduce home assisted visits, patients should be reviewed to assess whether dialysis frequency can be safely reduced.

12. Management of PD complications including PD-related related infection

PD related Infection and other complications

a. Prevention – retraining, supply of locally applied antibiotics to exit site

- i. The general measures for prevention should remain in place -see ISPD 2016 guideline www.pdconnect.com/content/36/5/481.full .
- ii. Maintain supplies of prophylactic topical antibiotics
- iii. Routine screening policies for MRSA and MSSA will be subject to change according to local Trust Policy.

b. Peritonitis: Diagnosis – systems to obtain cultures

The challenges here relate to timely diagnosis, processes for patient review, sample collection, antibiotic selection refinement and administration, patient follow-up, outcome determination and subsequent management.

- i. Review with local microbiology services to ensure that local plans are in place.
- ii. Ensure clear guidance as per section 3.

- iii. *Samples should be obtained for culture prior to initiating antibiotics.*
Devise local protocols to obtain samples (e.g. trained drivers who could also deliver antibiotic loaded dialysate, see under treatment).

c. Peritonitis: Treatment – antibiotic regimes that minimise visits

- i. *Review the local peritonitis protocol* to ensure it is up to date
- ii. *Consider antibiotic regimes that are less labour intensive to administer (such oral versus IP antibiotics, dialysate loading doses) and drivers, ancillary staff to deliver*
- iii. *Use anti-fungal prophylaxis* as per ISPD guidelines
- iv. *Devise local plans* to enable monitoring of adequate but safe antibiotic levels
- v. *Catheter removal.* Catheters inserted using Seldinger techniques can be removed medically. Surgical removal qualifies as an emergency. If surgical services are not available as a last resort PD catheter can be removed using a sustained pull technique (Grieff M et al PDI March 2017). <https://doi.org/10.3747/pdi.2016.00152>. Make sure that the whole cuff was removed when doing this.

d. Exit site care, infections and other complications

- i. Adopt usual guidance to manage these but use the following principles and solutions to minimise hospital visits:
 1. Photos to inspect exit sites (e.g. weekly)
 2. Combine as much as possible into a single visit
 3. Treat leaks conservatively