NSW TAG

NSW Therapeutic Advisory Group Inc.

Advancing quality use of medicines in NSW

Group Discussion: Recording of Schedule 8 Medicine Administration in Operating Theatres

Date: February 2018

Question:

NSW TAG received an enquiry from a member regarding the recording of Schedule 8 (S8) medicines in operating theatres (OTs).

NSW TAG and TAGNet members were asked to provide the following:

1) The current recording procedure at your hospital when it is expected that an S8 will be administered to a patient during the perioperative period.
2) The potential flaws of the current system e.g.
    a. Are the entire contents from the S8 ampoule drawn up into the one syringe prior to the procedure or only the expected amount? What amount is recorded against the patient's name?
    b. Do all clinicians (nurses, anaesthetists, surgeons) follow the same procedure?; and, is there compliance with appropriate/required documentation that is easily accessed by all clinicians?
    c. What happens when more than is expected is used? i.e. more ampoules;
    d. What happens to remaining solution that is not used (when, where and by whom is it discarded)?
3) The way you believe S8s administration should be recorded in OTs.
4) Have you any tools/resources that are being used in theatre to make the recording of S8s (and other medicines) more accurate, comprehensive and manageable.

Responses:

7 responses were received from: Calvary Mater Newcastle (CMN), Canterbury, John Hunter Hospital (JHH), Port Macquarie & Kempsey and Tweed Hospitals, Murrumbidgee Local Health Disrict (MLHD) and St Vincent's.

1) *The current recording procedure at your hospital when it is expected that an S8 will be administered to a patient during the perioperative period.*

- Port Macquarie & Kempsey: what is supposed to happen is that the anaesthetist writes it on the anaesthetic record, then the stock gets taken out of the safe and written up by the nursing staff taking it out of the safe, then at the end of the case the anaesthetist signs the book and checks the count.
- The Tweed Hospital: before each procedure the anaesthetist requests the anticipated S8 drugs that will be required from the registered nurse (RN). The patient's name is recorded in the appropriate register along with date, time, and printed name and first initial of the anaesthetist and the RN. At the end of the operation the total amount administered and, if necessary, amount discarded is then recorded.
- Canterbury:
  In the OT: the date, time the drug was removed from the drug safe, patients full name (SURNAME, First name), the whole amount of the drug ampoule removed, the balance once drug is removed, name of prescriber (in Theatres it is the senior anaesthetist of that OT), name and signature of the anaesthetist administering drug (either the senior anaesthetist or their registrar who is present with the nurse at the time) and the name and signature of the nurse responsible for removing the drug out of the cupboard with the anaesthetist. The anaesthetics records on the Anaesthetic chart MR14A the amount of the drug given and any discarded.
  In recovery: the date, time the drug was given, patients full name (SURNAME, First name), the whole amount of the drug given, the balance once drug is removed, name of prescriber (usually one of the patient's anaesthetists), name and signature of the nurse administering the drug and the name and signature of the nurse witnessing the administering of the drug.
  **The difference with documentation in Recovery is that we don't document the amount of the drug given and discarded until after we finish giving Pain Protocol.
- MLHD:
  - Regional Referral Hospital - anaesthetist requests S8 by asking their anaesthetic nurse. They go to the locked cupboard and take the drug out and then give it to the anaesthetist. Nurse counts the drugs at the beginning and end of the shift and if they are handing over the theatre to someone else for more than just a break. The nurse records how much has been given/discarded.
  - District Hospital - record in S8 drug book.
  - District Hospital - drug is not drawn up unless it is to be given straight away it is not drawn up with an expectation it may be given.

    - District Hospital - our perioperative suit has designated S8 drug registers; At the beginning of a theatre day; Drugs are transferred to the theatre drug register; Drugs are dispensed and recorded; End of list remainder of stock transferred back to General ward pharmacy.
    - District Hospital - recorded contemporaneously then checked and documented by the anesthetist and anesthetic nurse.
- CMN: anaesthetist comes to recovery and signs out the S8 for their next patient with the recovery nurse then returns to theatre.

  This practice does not align with current NSW Guidelines for the Handling and Recording of Accountable Drugs. As high risk drugs, all accountable medications are expected to be double checked. The expectation is that the same 2 staff members are involved in accessing the accountable drug, preparing the dose of the accountable drug, documenting the access of the dose of the accountable drug, documenting the discard quantity (if any) of the accountable drug and administering the accountable drug to the patient.
- JHH: anaesthetist/nurse signs out in recovery (with recovery nurse) then takes medication to OT unaccompanied. Full quantity of expected medication is taken. Administration is recorded on anaesthetics form. If more medication is required, nurse goes back to recovery to get more, signs out with recovery nurse and returns to theatre unaccompanied.
- St Vincent's: Each anaesthetic bay has its own allocated safe (with separate key). If there are more than 2 cases booked for the day, a selection of S8s/S4s are written out of the main anaesthetic safe by two R.Ns and transferred to the allocated smaller safe at the beginning of the day. There are different keys for each safe. Once a patient arrives in the anaesthetic bay, the requested S8s/S4D medications are written out by two R.Ns (or R.N and Anaesthetist) for the allocated patient. They do not tend to write out all patients in advance (e.g. all patient's on the list), as procedures inevitably are cancelled, or patient arrives non-fasted etc. or the patient may be allergic to the preferred drug. Nursing staff also do not want to encourage S8/S4D stock that has written out of the register to be 'floating around', in pockets, in beds etc.
    - Each anaesthetist is allocated their anaesthetic nurse for their session
    - At the end of the day, excess stock is transferred back to the main theatre safe.

2) *The potential flaws of the current system e.g.*

   a. *Are the entire contents from the S8 ampoule drawn up into the one syringe prior to the procedure or only the expected amount? What amount is recorded against the patient's name?*

      - Port Macquarie & Kempsey: the amount given is recorded as per the document: Network procedure for Handling of Schedule 8 and Schedule 4 Appendix D Drugs.
      - Tweed: entire amount drawn up and amount administered is recorded.
      - Canterbury: Yes the entire contents are drawn up into the one syringe.
        The amount recorded next to the patients name in the drug register in the OT is always the total amount of the drug (e.g. 100mcg Fentanyl) as the anaesthetist will then record on their Anaesthetic Record MR 14A the actual amount given to the patient and discarded at the end of the case.
      - MLHD:
        - Regional Referral Hospital - They normally will draw it all up. At the end of the case, anaesthetist tells the nurse how much has been given and how much discard there is. Ideally they discard the remains in front of the nurse but this does not always happen. Lots of potential flaws – drug is only signed out by one RN but unbroken ampoule is given to anaesthetist. They can pocket ampoule and fill a syringe up with saline and label it as something else. Discards again are variably observed. Especially since the anaesthetist would be in recovery handing over, often while the drugs are thrown out. We have a cumbersome system.
        - Base Hospital - entire ampoule drawn up by anaesthetist at start of the case. The actual amount administered is recorded against the patients name/along with the amount discarded.
        - District Hospital - amount ordered is drawn up as per the order given by Doctor
        - District Hospital - nothing is drawn up prior to the procedure only if it is to be given then the entire amount is drawn up and amount administered recorded in the drug book and any amount discarded also with 2 signatures as per policy.
        - District Hospital - as ordered the medication is dispensed. Only use for that patient; not dispensed prior to patient requiring; amount given to patient recorded; amount discarded recorded.
        - District Hospital - all drawn up into a labelled syringe and remaining contents are discarded as per legal requirements.
      - CMN: Entire contents are drawn up into a marked syringe and the appropriate amount is given to the patient. The amount given is then documented on the anaesthetic sheet. In the drug book predominantly the whole amount is documented against the patient's name. The amount discarded isn't always documented. (CMN

Pharmacy comment: not documenting the actual dose administered and the discard dose has the potential to make determining the patient's actual dose difficult as well as making it easy to divert the discard quantity).

- JHH: Total possible quantity is recorded in register under patient's name. Single dose is drawn up into the syringe. Actual doses administered to patient are recorded on anaesthetics form. If multiple doses are not required during theatre or while in recovery, sometimes the ampoules remaining are written back into the register, other times it is kept for the next patient. Therefore, in the register, the name recorded may not be accurate, but each administration is recorded on the patient's anaesthetics form
- St Vincent's:
  Generally yes, the contents of all the ampoule is drawn up in one syringe prior to the procedure. While the anaesthetist will have an estimate of how much will be used, the entire contents is recorded against the patient's name in the DD register, but then the exact amount administered for that patient is recorded on the blue anaesthetic chart. Best practice dictates that each anaesthetist signs off the discard amount in this box in the presence of a witness (e.g. Anaesthetic nurse). Some anaesthetists may not draw up the contents until just before it is required, in which case, if there are unused ampoules for that patient, they are returned to the stock (and written back into the DD book) with an R.N.

b. *Do all clinicians (nurses, anaesthetists, surgeons) follow same procedure?; and, is there compliance with appropriate/required documentation that is easily accessed by all clinicians?*

- Port Macquarie & Kempsey: They are supposed to follow same procedure.
- Tweed: Yes, all are compliant and the PD2013-043 is on the intranet on every computer.
- Canterbury: Yes all clinicians follow the same procedure as outlined in the Medications Handling MOH policy and as per the S8 Drug Register.
  - Yes there is compliance with documentation and it is easily accessed by all clinicians. The only forms of documentation that we require is the S8 Drug register, the anaesthetic chart (MR14A), the medication chart for pain protocol and/or other S8 drugs (e.g. Endone/Oxycontin).
- MLHD: Yes staff at all sites follow same procedure.
- CMN: Not all staff follow the same procedure, only some document the discarded amount. (CMN Pharmacy comment: In an ideal ward, all staff working in the same area should follow the same procedure. By doing so, there would be no confusion around the *intent/interpretation of the meaning* of the entry).

- JHH: They do not all follow the same procedure. There is not 100% compliance with appropriate/required documentation.
- St Vincent's: Anaesthetists do tend to have variable practice in the way some medications are diluted, however audits for SVHA indicate compliance (particularly with recording discard amount) has improved in recent years. The advantage of all anaesthetists following this practice is that the movement of an accountable medication (e.g. from main safe, to smaller safe, to allocated patient/treating anaesthetist, to record of administration and discard) is trackable in cases where drug may go missing. One of the most challenging medications where recording of discard needs improvement is when remifentanil is used, as it is always given as an infusion. Therefore, an estimate of the remaining amount is required by the anaesthetist who may forget/has the barrier of too many steps for an accurate judgement and often ends up not recording it at all.

c. *What happens when more than is expected is used i.e. more ampoules are required for patient?*

- Port Macquarie & Kempsey: go back to the safe and write it out.
- Tweed: the anaesthetist requests more from the RN. If the entry has already been completed with total amount administered a second entry is made.
- Canterbury: we only take out the amount of vials to be used that is requested from the anaesthetist in the OT. e.g. if they require 300mcg of Fentanyl then we remove 3 vials of Fentanyl 100mcg/2mls and reflect this in the register as follows;
  - Amount given – 300mcg and then minus 3 ampoules from the previous balance. If an anaesthetist requires more drugs after the initial dose has been signed out, then an additional entry is made in the drug register following the exact same protocol as mention above.
  - In recovery, we would never require additional ampoules unless we have completed Pain Protocol or a one-off S8 drug dose, the patient has been reviewed by the anaesthetist and a new order is prescribed or added onto the medication charge. This would also be reflected in the patient's notes by the recovery nurse.
- MLHD:
  - Regional Referral Hospital - if more is needed, then extra drug is requested from the anaesthetic nurse.
  - Base Hospital- second or following ampoules written up as taken from the DD cupboard when required & same procedure as above followed; actual amount administered recorded against patient at time given.

- District Hospital - this is recorded in the S8 book and ordered on medication chart by doctor.
- District Hospital - if more than one ampoule is required then it is drawn up as above and recorded with amount given and/or discarded (not in advance only drawn up when it will be given immediately).
- District Hospital - if more stock is required then extra stock is transferred from General ward to theatres.
- District Hospital - same as above.

- CMN: when more is required, another whole ampoule is signed out against that patient's name.
- JHH: If more ampoules are required, a nurse leaves the OT to get more medication from safes kept in recovery. Sign out medication with recovery nurse, then return unaccompanied to operating theatres. The nurse retrieving extra medication may not always be the nurse administering the medication.
- St Vincent's: The anaesthetic nurse is called to retrieve more stock from the safe in the anaesthetic bay/main safe if required.

d. *What happens to remaining solution that is not used (when, where and by whom is it discarded)?*

- Port Macquarie & Kempsey: discarded line in the book under the administration line.
- Tweed: any remainder is expelled from the syringe into the sharps container (as per the medication handling policy) at the completion of the procedure. This is done by either the anaesthetist* or 2 registered nurses.
- Canterbury: it is the responsibility of the anaesthetist who has signed for those drugs to discard any remainder drugs and record this on their MR14A anaesthetic chart.
  - Both the administering and witnessing recovery nurses, who signed out the S8 drug discard, squirt out any unused liquid in the sharps bin (followed by the syringe itself) once the drug has been administered in full or the patient has reached a therapeutic pain level and meets Recovery pain level criteria, displays signs of respiratory depression and Narcotics are suspended or the patient states they don't want anymore. The total amount given and therefore discarded is then recorded in the drug register.
- MLHD:
  - Regional Referral Hospital - ideally the anaesthetist discards the remains in front of the nurse but this does not always happen.
  - Base Hospital - discarded by RN – usually the anaesthetic nurse, with the anaesthetist witnessing amount discarded or anaesthetist discards with nurse

witness at the completion of the case or during case if no more will be required. These 2 people sign the DD book.
    - District Hospital - discarded in sharps container.
    - District Hospital - it is discarded and recorded in the drug book signed by the person administering and the witness.
    - District Hospital - amount not used for the patient is discarded, noted in register, attended by 2 staff administering the drug.
    - District Hospital - discarded at end of procedure, in the operating theatre by the anaesthetist and anaesthetic nurse.
- CMN: some staff document the discarded amount but not all
- JHH: if it is not used and is already drawn up, the anaesthetist or nurse discards remainder. This is not always recorded.
    - If it is possibly required while patient is in recovery, a full ampoule only (not already drawn up) is given to recovery nurse. If it is not needed in recovery, then the ampoule is written back into the register by 2 recovery nurses.
    - If a full ampoule remains and is not needed in recovery, then it may either be re-written back into the register or kept for next
- St Vincent's: each anaesthetist signs off the discard amount on the anaesthetic chart in the presence of a witness (e.g. Anaesthetic nurse). Some anaesthetists may not draw up the contents until just before it is required, in which case, if there are unused ampoules for that patient, they are returned to the stock (and written back into the DD book) with an R.N.
    - Regarding PCAs that are commenced in the theatre, the order is prescribed on the anaesthetic chart and sent through to Recovery. If there is time, the nursing staff then write out the appropriate drug for the specific patient in preparation for the imminent arrival. There is often a significant impact to workflow if the nursing staff wait until the patient physically arrives. On occasion, the patient may not tolerate the specific opioid, or the anaesthetist may change their mind on which opioid for the patient, in which case, the remainder of the drug is discarded by two R.Ns.

e. *Other comments:*

- JHH: In general – accountable drug handling in OT is an area that we recognise is currently very sub-optimal; in fact medication use in theatres overall is very much unchartered territory that we have been trying to make some inroads with (labelling of medicines, use of gallipots, handling of S8s, storage of NMBAs, and layouts of anaesthetic trolley). We will see what happens post accreditation. No solutions yet regarding accountable drug handling.
    - Unaccompanied S8 stock transport between recovery safe and theatre

- Discards are not accurately recorded in the register
- Discard recording varies – and is not reflected in the register in recovery
- Full ampoules not required may be used for subsequent patients – therefore these entries do not match the register
- Many opportunities exist for diversion as the system is not closed and not standardised.

- MLHD:
  - None of our pharmacists are involved or provide any clinical service with theatre so it's often hard to know what's really happening.
  - None of our theatres have automated medication cabinets but we have started some early discussions on these (for use at Wagga and Griffith potentially). I will be interested to read the feedback from other sites.
  - The 'monthly green pen check' is a check done by the unit manager (sometimes hospital manager at district hospital) that really is simply checking physical inventory matches DD register inventory and documentation practices are in line with the use of the new (2016) DD register. Sometimes they also do some random 'signature' checks.

3) *<u>The way your believe S8s administration should be recorded in operating theatres.</u>*

- Port Macquarie & Kempsey: there should be absolutely zero difference between the theatre and the wards.
- Canterbury: we feel our current practice is working well within our department. It has been changed in the last few years and no other suggestions for further change has been identified.
- MLHD: all sites to the best of their knowledge follow the policy directive.
- CMN: we are looking at changing our process to have a set amount of S8s in the locked cupboards in the anaesthetic bays so the anaesthetist and the anaesthetic nurse can check out and follow the guidelines more appropriately as they are both present at checking, administration and, if required, discard.
  - Doses of Accountable drugs should be prepared by the two staff who will be administering them and witnessing the administration of them. The actual dose administered to the patient and the amount discarded (if any) should be recorded in the Accountable Drug register. The entries should be made by the staff who will be administering them or witnessing the administration of them.
  - The documentation process should align with NSW Guidelines i.e. the actual dose administered to the patient and the amount discarded (if any) should be recorded in

the Accountable Drug register. These entries are on 2 separate lines in the register – the first line entry stating the administered dose; the second line entry stating the discard amount. The sum of these 2 entries = the total ampoule/vial dose.

- Not documenting the actual dose administered and the discard dose has the potential to make determining the patient's actual dose difficult as well as making it easy to divert the discard quantity.
- The actual dose of all medications administered to patients in theatre should be recorded on the anaesthetic sheet. This information would facilitate the audit/review process if an audit or review was required.
- Would be wonderful if there was voice activated technology that could record the prescriber's order. The nurse and witness to the preparation of the dose could also verbally verify the administration of the prescribed dose.
- In addition to the prescribing and administration of the patient's actual doses of medications being recorded, this method has the added benefit of serving as a "final check/verification" of the prescriber's order.

- St Vincent's: Currently, MedChart is suitable for the pre and post-operative theatre patients for prescribing and administering medications. It is not user friendly for the intra-operative period. There is consensus that the current practice of recording the discard volume on the anaesthetic chart with a suitable witness is the safest and most practical method to ensure there is transparent recording of the movement of accountable medications. If it was suggested, for example, that the discard should then be also entered retrospectively into the DD register, this would significantly impede workflow.

4) *Have you any tools/resources that are being used in theatre to make the recording of S8s (and other medicines) more accurate, comprehensive and manageable.*

- Port Macquarie & Kempsey: the document 'Network Procedure for Handling of Schedule 8 and Schedule 4 Appendix D Drugs' (copy provided).
- Tweed: the drug registers currently in use have the discard recorded on the same line as the administration amount, which reduces the likelihood of the discard amount record being inadvertently omitted. As per LHD policy, our S8 registers are audited monthly by 2 RNs. A signature register is maintained by the nurse in charge.
- Canterbury: we have a regular in-service on S4/8 drug handling and documentation presented by our educators, we have had our staff recently read and sign they have read the MOH Medication Handling policy. There is also a Drug Register documentation guide and instruction handbook created by one of our previous educators that is currently being updated for staff to access as a quick reference "how-to" guide that is kept in each OT and recovery & DSU.

- MLHD: All sites complete monthly 'green pen checks' by managers and monthly S8 audits undertaken in QARS.
  - Regional Referral Hospital - there is an intermittent audit on ensuring the books match up to the anaesthetic chart each day.
- St Vincent's: Not currently, we would be interested to see how other sites currently practice.

Responses received as at 7th February 2018

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