

Exercises in CLINICAL ACCURACY CHECKING

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This is the third set of clinical accuracy exercises to be published in *Hospital Pharmacist*. Readers who have been following the series will have noted that the exercises attempt to address the pharmaceutical and medical issues that arise in different specialties.

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In this issue, two prescriptions are given for assessment, both targeting mental health issues. Readers are invited to identify the presenting problems. The prescriptions are followed by a discussion of the significant issues. The first was identified on a care of the elderly ward while the second came from a medical ward.

Please note that these prescriptions have passed through the dispensary at Addenbrooke's NHS trust, although the patients' names have been changed to maintain confidentiality. The check list used by candidates is shown in Figure 1.

CLINICAL ACCURACY CHECKING TEST

| Task | Answers | (Candidate name:.....) |
|---|--|------------------------|
| 1. You have - minutes to review the following prescription charts and identify the problems. You have - minutes to document your answers Total time allowed:- minutes | Prescription number | 1 |
| 2. You are only able to make ONE intervention per prescription For each of the prescriptions , using the answer sheets provided: | Review panel: | |
| 3. Document the ward and clinical specialty | Ward | Clinical specialty |
| 4. List briefly the endorsements you would make to the chart | Chart endorsements: | |
| 5. List briefly the patient's major medical problem(s) suggested by the drug therapy | | |
| 6. List briefly the most important pharmaceutical problems you would try to resolve if you were checking the chart at ward level (maximum of SIX problems) | Medical problems: | |
| 7. State the ONE priority intervention you would make for EACH of the charts given that you are checking the chart in the dispensary | 1. | 5. |
| 8. Briefly state the action you would take to resolve the priority intervention | 2. | 6. |
| 9. State the urgency of the priority intervention from one of the following: Urgent = chart must be amended by a doctor or pharmacist before being dispensed Less urgent = any other action, such as sending an intervention note to the doctor, highlighting the problem to the ward pharmacist, phoning a nurse or doctor for further information. | 3. | 7. |
| 10. Materials allowed: | 4. | 8. |
| BNF | Pharmaceutical problems: | |
| Paediatric formulary | 1. | 4. |
| Compendium of data sheets and SPCs | 2. | 5. |
| Trissel's Handbook of Injectable Drugs | 3. | 6. |
| List of wards — specialty and current ward pharmacist | Priority intervention number | 1 2 3 4 5 6 |
| | (circle the appropriate box) | |
| | Suggested action to resolve the priority intervention: | |
| | Urgency: | Urgent Less urgent |
| | (circle the appropriate box) | |

Figure 1: Instructions for candidates: state the ward and clinical specialty in order to focus attention on likely problems. For example, if the patient was on a medical ward specialising in renal disease, the pharmacist must be particularly vigilant about renally excreted drugs. The chart endorsements refer to the discharge or to take out (TTO) prescription where one exists or otherwise to the inpatient chart. Please note: candidates are given six minutes to review each prescription, and three minutes to document their answers for each prescription

| Prescription Chart | | | | | | | | | | | |
|--------------------|--|---------------|--|--------|--|--|--|----------------|--|-----------|--|
| Surname | | Hospital No | | Weight | | DRUG SENSITIVITIES | | | | | |
| A First Names | | Date of Birth | | Sex | | Doctor must also enter this information on FRONT of case folder must not be administered unless this box has been completed | | | | | |
| P Consultant | | 30.3.16 | | F | | Date | | Drug/Substance | | Signature | |
| | | Ward | | Height | | 19.8.01 | | NKA | | A DOCTOR | |
| | | Cardiology | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| Regular Prescriptions | | | | | | | | | | | | | | | | | | | |
|---------------------------------|-------|------------|-----------|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Month and date | | | | | | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Tick times or enter other times | | | | | | | | | | | | | | | | | | | |
| DRUG (APPROVED NAME) | | | | | | 6 | | | | | | | | | | | | | |
| Co-proxamol | | | | | | 8 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Dose | Route | Start Date | Stop Date | | | 12 | | | | | | | | | | | | | |
| 2 tabs | PO | 28.10.00 | | | | 14 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Signature A Doctor | | | | Pharm | 18 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Additional Instructions | | | | 22 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| DRUG (APPROVED NAME) | | | | | | 6 | | | | | | | | | | | | | |
| Thioridazine | | | | | | 8 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Dose | Route | Start Date | Stop Date | | | 12 | | | | | | | | | | | | | |
| 10mg | PO | 28.10.00 | | | | 14 | | | | | | | | | | | | | |
| Signature A Doctor | | | | Pharm | 18 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Additional Instructions | | | | 22 | | | | | | | | | | | | | | | |
| DRUG (APPROVED NAME) | | | | | | 6 | | | | | | | | | | | | | |
| Dothiepin | | | | | | 8 | | | | | | | | | | | | | |
| Dose | Route | Start Date | Stop Date | | | 12 | | | | | | | | | | | | | |
| 50mg | PO | 28.10.00 | | | | 14 | | | | | | | | | | | | | |
| Signature A Doctor | | | | Pharm | 18 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Additional Instructions | | | | 22 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| DRUG (APPROVED NAME) | | | | | | 6 | | | | | | | | | | | | | |
| Dienoestrol Cream | | | | | | 8 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Dose | Route | Start Date | Stop Date | | | 12 | | | | | | | | | | | | | |
| 1 applic | PV | 28.10.00 | | | | 14 | | | | | | | | | | | | | |
| Signature A Doctor | | | | Pharm | 18 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Additional Instructions | | | | 22 | | | | | | | | | | | | | | | |
| DRUG (APPROVED NAME) | | | | | | 6 | | | | | | | | | | | | | |
| Meptazinol | | | | | | 8 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Dose | Route | Start Date | Stop Date | | | 12 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| 200mg | PO | 7.11.00 | | | | 14 | | | | | | | | | | | | | |
| Signature A Doctor | | | | Pharm | 18 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Additional Instructions | | | | 22 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| DRUG (APPROVED NAME) | | | | | | 6 | | | | | | | | | | | | | |
| Paroxetine | | | | | | 8 | * | | | | | | | | | | AN | AN | AN |
| Dose | Route | Start Date | Stop Date | | | 12 | | | | | | | | | | | | | |
| 20mg | PO | 23.11.00 | | | | 14 | | | | | | | | | | | | | |
| Signature A Doctor | | | | Pharm | 18 | | | | | | | | | | | | | | |
| Additional Instructions | | | | 22 | | | | | | | | | | | | | | | |

Figure 2: Patient's regular drugs (first page of chart for prescription 1)

CHECK FOR ALLERGY STATUS ON PAGE 1

| Regular Prescriptions | | | | 26 | 27 | 28 | 29 | 30 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--|-------|------------|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Month and date \rightarrow | | | | | | | | | | | | | | | | |
| Tick times or enter other times \downarrow | | | | | | | | | | | | | | | | |
| DRUG (APPROVED NAME) | | | | 6 | | | | | | | | | | | | |
| Co-proxamol | | | | 8 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Dose | Route | Start Date | Stop Date | 12 | | | | | | | | | | | | |
| 2 tabs | PO | 28.10.00 | | 14 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| Signature A Doctor | | | Pharm | 18 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| Additional Instructions | | | | 22 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| DRUG (APPROVED NAME) | | | | 6 | | | | | | | | | | | | |
| Thioridazine | | | | 8 | * | | | | | | | | | | | |
| Dose | Route | Start Date | Stop Date | 12 | | | | | | | | | | | | |
| 10mg | PO | 28.10.00 | | 14 | | | | | | | | | | | | |
| Signature A Doctor | | | Pharm | 18 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| Additional Instructions | | | | 22 | | | | | | | | | | | | |
| DRUG (APPROVED NAME) | | | | 6 | | | | | | | | | | | | |
| Dothiepin | | | | 8 | | | | | | | | | | | | |
| Dose | Route | Start Date | Stop Date | 12 | | | | | | | | | | | | |
| 50mg | PO | 28.10.00 | | 14 | | | | | | | | | | | | |
| Signature A Doctor | | | Pharm | 18 | | | | | | | | | | | | |
| Additional Instructions | | | | 22 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| DRUG (APPROVED NAME) | | | | 6 | | | | | | | | | | | | |
| Dienoestrol Cream | | | | 8 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| Dose | Route | Start Date | Stop Date | 12 | | | | | | | | | | | | |
| 1 applic | PV | 28.10.00 | | 14 | | | | | | | | | | | | |
| Signature A Doctor | | | Pharm | 18 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| Additional Instructions | | | | 22 | | | | | | | | | | | | |
| DRUG (APPROVED NAME) | | | | 6 | | | | | | | | | | | | |
| Meptazinol | | | | 8 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN |
| Dose | Route | Start Date | Stop Date | 12 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| 200mg | PO | 7.11.00 | | 14 | | | | | | | | | | | | |
| Signature A Doctor | | | Pharm | 18 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| Additional Instructions | | | | 22 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| DRUG (APPROVED NAME) | | | | 6 | | | | | | | | | | | | |
| Paroxetine | | | | 8 | * | AN | AN | AN | AN | AN | AN | AN | AN | AN | AN | |
| Dose | Route | Start Date | Stop Date | 12 | | | | | | | | | | | | |
| 20mg | PO | 23.11.00 | | 14 | | | | | | | | | | | | |
| Signature A Doctor | | | Pharm | 18 | | | | | | | | | | | | |
| Additional Instructions | | | | 22 | | | | | | | | | | | | |

Figure 3: Patient's regular drugs (second page of chart for prescription 1)

| AS REQUIRED DRUGS | | | | CHECK FOR ALLERGY STATUS ON PAGE 1 | | | | | | | | | | | | | |
|---|---------------|-----------|------------|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|--|--|--|
| DRUG (APPROVED NAME) | | | | Date | 13.11 | 13.11 | 24.11 | 25.11 | 28.11 | 28.11 | 4.12 | 6.12 | | | | | |
| Morphine Sulphate Solution | | | | | | | | | | | | | | | | | |
| Dose | Max Frequency | Route | Start Date | Time | 03.00 | 22.35 | 13.45 | 10.25 | 08.45 | 09.20 | 13.00 | 09.15 | | | | | |
| 5-10mg | 4 hrly | PO | 11.11.00 | | | | | | | | | | | | | | |
| Signature A Doctor | | Stop Date | Pharm | Dose / Route | 5mg | 5mg | 5mg | 5mg | 5mg | 5mg | 10mg | 10mg | | | | | |
| Additional Instructions / Max. dose in 24 hours | | | | Given by | AN | AN | AN | AN | AN | AN | AN | AN | | | | | |

Figure 4: Patient's "as required" drugs (prescription 1)

| Prescription Chart | | | |
|----------------------|-------------------------|----------|--|
| Surname Porter | Hospital No 785634 | Weight | DRUG SENSITIVITIES |
| First Names Sarah | Date of Birth 6.7.43 | Sex F | Doctor must also enter this information on FRONT of case folder must not be administered unless this box has been completed |
| Consultant | Ward Medical | Height | Drugs |
| | | | Date |
| | | | Drug/Substance |
| | | | Signature |
| | | 19.1.01 | Nil known |
| | | | A DOCTOR |

Figure 5: Patient's details on the chart for prescription 2

| Regular Prescriptions | | | | | |
|---------------------------------|-------|------------|-----------|----|----|
| Month and date | | | | 20 | 21 |
| Tick times or enter other times | | | | | |
| DRUG (APPROVED NAME) | | | | | |
| Ranitidine | | | | | |
| Dose | Route | Start Date | Stop Date | 6 | |
| 50mg | IV | 20.1.00 | | 8 | * |
| Signature | | | | 12 | |
| A Doctor | | | | 14 | * |
| Additional Instructions | | | | 18 | * |
| | | | | 22 | |
| DRUG (APPROVED NAME) | | | | | |
| Lithium | | | | | |
| Dose | Route | Start Date | Stop Date | 6 | |
| 80mg | PO | 20.1.00 | | 8 | |
| Signature | | | | 12 | |
| A Doctor | | | | 14 | |
| Additional Instructions | | | | 18 | |
| | | | | 22 | * |
| DRUG (APPROVED NAME) | | | | | |
| Largactil | | | | | |
| Dose | Route | Start Date | Stop Date | 6 | |
| 200mg | PO | 20.1.00 | | 8 | |
| Signature | | | | 12 | |
| A Doctor | | | | 14 | |
| Additional Instructions | | | | 18 | |
| | | | | 22 | * |
| DRUG (APPROVED NAME) | | | | | |
| Prozac | | | | | |
| Dose | Route | Start Date | Stop Date | 6 | |
| 40mg | PO | 20.1.00 | | 8 | * |
| Signature | | | | 12 | |
| A Doctor | | | | 14 | |
| Additional Instructions | | | | 18 | |
| | | | | 22 | |
| DRUG (APPROVED NAME) | | | | | |
| Diclofenac | | | | | |
| Dose | Route | Start Date | Stop Date | 6 | |
| 50mg | PO | 20.1.00 | | 8 | * |
| Signature | | | | 12 | |
| A Doctor | | | | 14 | * |
| Additional Instructions | | | | 18 | |
| | | | | 22 | * |
| DRUG (APPROVED NAME) | | | | | |
| | | | | | |
| Dose | Route | Start Date | Stop Date | 6 | |
| | | | | 8 | |
| Signature | | | | 12 | |
| A Doctor | | | | 14 | |
| Additional Instructions | | | | 18 | |
| | | | | 22 | |

Figure 6: Patient's regular drugs (prescription 2)

PRESCRIPTION 1

The key pharmaceutical care issue on this prescription is therapeutic duplication. The patient was an 85-year-old female admitted in October, 2000, and the prescription was seen in the dispensary early in December. It appears that the patient's major medical problems were depression and pain.

Two antidepressants were prescribed, paroxetine, a selective serotonin re-uptake inhibitor (SSRI) and dothiepin, a tricyclic antidepressant (TCA). Dothiepin probably formed part of the medication on admission. It is likely that the doctors intended to change over to paroxetine, since the continuation prescription on November 26 stated that the patient was to be weaned off dothiepin. No dosage reduction had occurred to date.

According to Bazire,³ drug-drug interactions involving the cytochrome P450 system occur with all SSRIs. Paroxetine is the most potent in vitro inhibitor of CYP2D6. This effect results in a significant increase in plasma concentrations of TCAs and thus enhanced toxicity. Prescribing both drugs together over a changeover period is not advised. Rather, the TCA should be stopped and the SSRI started. Alternatively, the TCA dose can be tapered to 50mg daily and discontinued over 5 to 7 days. (However, in this case, since the patient is already on a dose of 50mg daily, such action would not be appropriate.) Once the TCA dose reaches 50mg, the SSRI is initiated at the normal starting dose. During the changeover period, the patient should be observed for signs of problems such as serotonin syndrome, cholinergic rebound or TCA withdrawal. In this patient, concurrent use of a TCA and SSRI had occurred for 17 days. This pharmaceutical care problem was thus the priority intervention.

The patient was receiving three oral analgesics: co-proxamol, meptazinol and morphine sulphate. The British National Formulary (BNF)² designates co-proxamol as a product less suitable for prescribing because the low dose opioid component may not confer significantly better analgesic effect than paracetamol, yet it may be sufficient to induce typical side effects such as constipation and sedation. The risk of side effects was increased in this patient due to advanced age and concurrent use of dothiepin and thioridazine. The candidate should therefore question the analgesic regimen for this patient.

Meptazinol is a centrally-acting opioid analgesic with both agonist and antagonist properties and a possible central cholinergic effect. There were claims that it had a low incidence of respiratory depression and constipation.

Meptazinol was selected, following a drug utilisation review at Addenbrooke's, in place of tramadol, for step-down post-operative analgesia because tramadol carries a greater risk of drug interactions, a greater potential for dependence and requires dosage reduction in renally-impaired patients. Little evidence has been found in the literature to support the use of either drug in medical patients. A recent literature search suggested that meptazinol had lower efficacy and a higher incidence of adverse effects than morphine, had no significant role in the management of chronic pain and was not recommended for hospital formularies.¹ Its short half-life (two hours) constituted a further problem, since the dose should be 200mg every three hours, a regimen not well suited to hospital drug rounds. Since meptazinol was a partial agonist-antagonist, there was a risk that it would offset the effect of other opiate analgesics. Concurrent use with co-proxamol (which contains dextropropoxyphene) and morphine might therefore not be appropriate.

In December, 2000, the Committee on Safety of Medicines (CSM) issued a statement⁴ that thioridazine should be restricted to second-line treatment of schizophrenia. It is no longer licensed for agitation and restlessness in the elderly, due to the risk of serious cardiotoxicity. In this patient, the low dose, initially 10mg twice daily

reducing to 10mg once daily, suggests that the drug may be discontinued, although the dose reduction may have been an inadvertent transcription error. The CSM also warns that plasma levels of thioridazine may be increased by drugs which inhibit cytochrome P4502D6, such as paroxetine. Gradual reduction of thioridazine over one to two weeks is recommended. There is no obvious replacement drug available, although the BNF suggests chlorpromazine 10mg to 25mg, once or twice daily, for agitation in the elderly. Some doctors use atypical antipsychotic drugs such as risperidone (unlicensed indication). The short-term use of a benzodiazepine could be considered. The recommendation adopted at Addenbrooke's is to try phasing out the thioridazine slowly, without instituting alternative therapy. Phasing out thioridazine at the same time as dothiepin, however, could potentially lead to distress for the patient. The pharmacist might consider recommending the withdrawal of dothiepin first, followed by thioridazine, with appropriate monitoring of the patient.

Finally the dosage of dienestrol cream should be questioned. Indeed, some pharmacists wondered whether dienestrol cream was appropriate at all in an 85-year old patient. The BNF recommends dosage reduction every two weeks until maintenance dose is achieved. The minimum effective amount should be used to reduce systemic absorption. Attempts should be made to withdraw the cream every three to six months.

A competent candidate must prioritise the duplication of antidepressant therapy but also question the analgesic regimen and mention the problem with dienestrol cream dosage.

PRESCRIPTION 2

Lithium drug interactions and the possibility of iatrogenic disease were the main features of this prescription. Pharmacists often experience difficulty in deciding appropriate action to take when a drug-drug interaction is identified. The patient had probably been admitted to a medical ward with an acute gastrointestinal (GI) problem but had existing mental health problems.

The endorsements required on the prescription were: the brand of lithium (eg, Priadel, Camcolit), the generic name of Largactil (chlorpromazine) and the generic name of Prozac (fluoxetine).

The low dose of lithium was almost certainly an error and was the immediate problem for clarification on this prescription. It is most likely that the intended dose was 800mg. Patients should keep to the same brand of lithium where possible and the prescription should be endorsed with the manufacturer's brand name.

GI upset is a common side effect of lithium, varying from dose-related nausea to persistent GI problems which can indicate a toxic serum level.⁵

Diclofenac, which might have been started before the patient's admission, could also cause GI problems varying from diarrhoea and vomiting to ulceration. The drug interaction between NSAIDs and lithium is well documented.⁶ Reduced lithium excretion by the kidney causes increased serum lithium levels. Gastrointestinal side effects are also common with SSRIs.² The pharmacist should be aware that the GI problem could be iatrogenic, due to an adverse effect of lithium, diclofenac or fluoxetine, or due to a toxic serum lithium level resulting from the drug interaction. Diclofenac should be discontinued and a safer analgesic recommended, the choice depending on the cause of the pain.

The BNF warns that SSRIs such as fluoxetine increase the risk of central nervous system adverse effects of lithium and possibly cause lithium toxicity. However, this drug combination is commonly used. Appropriate monitoring of the patient for symptoms such as tremor, ataxia, confusion and absence seizures is required.⁵ Fluoxetine has been known to cause hyponatraemia² and low serum sodium levels will contribute to lithium toxicity. Owing to the dual possibility of drug-drug interactions, a check of serum lithium level is recommended, and the doctor should be advised when to take the blood sample. The serum sodium level should be checked.

Lithium is also commonly prescribed with chlorpromazine,

although serum levels of chlorpromazine are reduced using this drug combination and there are reports of the emergence of extrapyramidal side effects such as stiffness of the face, arms and legs and Parkinsonian tremor.⁵ Management of the drug-drug interaction usually involves increasing the chlorpromazine dose and monitoring for effectiveness. This may account for the relatively high prescribed dose of chlorpromazine.

A competent candidate must identify the need to clarify lithium dose and brand as the priority intervention but an awareness of the drug interactions is sought. The candidate should not only recognise the potential for drug interactions, but also give an indication of the appropriate action or patient monitoring required in each case.

N.B. Solutions to these exercises are shown in Figures 7 and 8 on page 114.

REFERENCES

1. Meptazinol overview (drug evaluations). In: Hutchinson TA, Shahan DR, Anderson ML, editors. Drugdex system. Englewood: Micromedex; 2000.
2. British National Formulary Number 41. London: British Medical Association and Royal Pharmaceutical Society of Great Britain; 2001.
3. Bazire S. Psychotropic drug directory: 2000. Salisbury: Mark Allen; 2000.
4. Breckenridge A. (www.open.gov.uk/mca/ourwork/monitorsafeequalmed/safety/messages/thiolet.pdf).
5. Anderson PO, Knoben JE, Troutman W, editors. Handbook of clinical drug data. Maidenhead: Appleton and Lange; 1999.
6. Stockley IH. Drug interactions. London: The Pharmaceutical Press; 1999.

Advertisement

Answer sheet (answers are shown in magenta)

Candidate name:.....

Prescription number 1

Ward: **Medicine for the elderly** Clinical specialty: **General medicine**

Chart endorsements: **Morphine sulphate solution 10mg = 5ml**

Medical problems:

- 1. Pain relief**
- 2. Depression**
- 3. Atrophy of vaginal epithelium**
4. Agitation or restlessness
- 5. Prophylaxis against nausea and/or vomiting (opiate-induced)**

Pharmaceutical problems:

- 1. Concurrent use of three analgesics. Meptazinol is a partial agonist and may counteract the effect of co-proxamol and morphine**
- 2. Risk of using co-proxamol in an elderly patient. Increased risk of confusion and sedation, particularly in combination with dothiepin and thioridazine**
- 3. Concurrent use of two antidepressants — SSRI and TCA. Patient is not being weaned off dothiepin as prescription suggests. Patient at risk of serotonin syndrome**
- 4. Frequency of dienestrol cream should be reduced after one to two weeks to half the initial dose, then to one to three times a week**
- 5. Thioridazine — possible transcription error on November 26 and no longer licensed for agitation in the elderly**
- 6. Risk of constipation due to opiates and to anticholinergic effects of dothiepin and thioridazine. Monitor and consider regular stimulant/softener laxative**

Priority intervention number **Number 3, but candidates must mention number 1 or 2 and number 4**

Suggested action to resolve the priority intervention:

- 1. Contact the doctor and suggest an appropriate withdrawal regimen of dothiepin**
- 2. Suggest appropriate regimen for dose reduction of dienestrol cream**
- 3. Also, suggest an appropriate change to the analgesic regimen**

Urgency: **Urgent**

Figure 7: Solution to prescription 1

Answer sheet (answers are shown in magenta)

Candidate name:.....

Prescription number 2

Ward: **Medical** Clinical specialty: **General medicine**

Chart endorsements: **lithium (specify brand); Largactil = chlorpromazine; Prozac = fluoxetine**

Medical problems:

- 1. Bipolar disorder**
- 2. Psychosis**
- 3. Gastrointestinal problem**
- 4. Pain relief**

Pharmaceutical problems:

- 1. Lithium — check brand and also check the dose. 80mg dose is very low and likely to be an error**
- 2. Check if GI problem could be due to lithium toxicity, or adverse effect of diclofenac or fluoxetine. Monitor lithium level (0.4mmol to 1mmol per litre), sample taken 12 hours after last dose**
- 3. Lithium drug interaction 1: with diclofenac, resulting in an increased risk of lithium toxicity**
- 4. Lithium drug interaction 2: with SSRI, resulting in an increased risk of CNS effects and lithium toxicity**
- 5. Lithium drug interaction 3: lithium causes decreased chlorpromazine serum levels. May need to increase chlorpromazine dose. Also (less commonly) increased risk of extrapyramidal side effects and neurotoxicity**
- 6. Fluoxetine can cause hyponatraemia. Increased risk of lithium toxicity if this occurs. Monitor serum sodium**

Priority intervention number **Number 1, but candidates must mention numbers 2 and 3**

Suggested action to resolve the priority intervention:

- 1. Check the dose and brand of lithium with patient/GP/previous drug chart/lithium card. Advise doctor on appropriate amendment**
- 2. Contact the doctor and suggest stopping diclofenac**
- 3. If no obvious cause of GI problem, consider drug-related cause and suggest appropriate method of monitoring lithium level**

Urgency: **Less urgent**

Figure 8: Solution to prescription 2