Prescribing Points

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This newsletter is written by the Medicines Optimisation Team, Oxfordshire CCG (OCCG), Jubilee House, Oxford Business Park South, Oxford, OX4 2LH. It is for all health professionals in Oxfordshire and is uploaded to the OCCG website. For queries, contact OCCG.medicines@nhs.net.

Please let us know if you are receiving this newsletter and it is no longer relevant to you by contacting OCCG.medicines@nhs.net.

Generic Email Address for Queries

The Medicines Optimisation team now has a single email address for any medicines or prescribing related queries and communications to the team. The new email address is OCCG.medicines@nhs.net and is now live. This will enable the team to answer any queries you may have in a timely and efficient manner through dedicated support on a daily basis. Please do not hesitate to contact the team with your prescribing queries.

Nystatin Dose Change

The doses of nystatin for oral and perioral fungal infections were updated in the online BNF in July 2016. Please familiarise yourself with the new doses for each age group.

New dose;

- ADULT and CHILD over 2 years, 400 000–600 000 units 4 times daily (half dose in each side of the mouth)
- INFANT and CHILD 1 month–2 years, 200 000 units 4 times daily (half dose in each side of the mouth)
- NEONATE see BNF for Children

Nystatin is currently available as 100,000units/ml oral suspension (£2.09 for 30ml*). The increased quantity at each dose may cause compliance issues in some patients. The change in dose means that an adult receiving the maximum dose for 7 days would need 6 x 30ml bottles at a cost of £12.54. Please consider if miconazole 20mg/g sugar free oromucosal gel (£3.23 for 15g or £4.38 for 80g*) would be a suitable alternative.

*Prices from Drug Tariff December 2016

Type 2 Diabetes Blood Glucose Management in Adults – Primary Care Guideline

A new Oxfordshire primary care guideline for Type 2 Diabetes was approved at APCO in November 2016. The Type 2 Diabetes Blood Glucose Management in Adults guideline is available on the intranet here. The guideline gives information on:

- Initiating drug treatment, including proper titration of metformin
- Table of drug treatment options available with advantages and disadvantages
- Practical management advice
- Summary of licensed combinations of anti-diabetic drugs

SO WHAT?
This new guidance should now be considered when making decisions around blood glucose management in Type 2 Diabetes.

Choosing a Blood Glucose Meter

The blood glucose meter comparison table originally published in March 2013 has recently been updated. This is now available on the intranet here. There is now a range of meters which use low cost blood glucose test strips, offering cost-effective choices for clinicians and patients. The table lists the commonly used blood glucose testing meters and clinical considerations and limitations to their use. Prices are listed and clinicians are encouraged to use meters with lower cost strips (<£10 per 50 strips) unless there is a clear need to use other meters. The first choice in Oxfordshire has been GlucoRx Nexus, however as shown in the table there are now many lower cost options to choose from. Meters with cost effective strips are highlighted in yellow on the table.

Some patients will have specific clinical requirements, and therefore need a more expensive meter. Examples are listed in the supporting document and choice will be guided by the specialist team. A review of whether or not patients require self-monitoring of blood glucose (SMBG) should be carried out regularly and the discussion should be supported by the table and patient information leaflets from the meter companies.

PLEASE NOTE: In Oxfordshire we have a significant number of patients using **OneTouch Ultra test strips.** The corresponding meters do not meet the new ISO 2013 standards, and therefore the test strips will be phased out by summer 2017. This means you will no longer be able to prescribe OneTouch Ultra test strips and patients will need to be changed over to a new meter. Please use the "Choosing a Blood Glucose Meter" document to assist you in choosing an alternative option.

SO WHAT?

- Make sure all appropriate patients are using cost effective test strips.
- Review the need for SMBG regularly.
- Use the table and supporting document to support conversations with patients.
- Review patients on One Touch Ultra test strips and switch to a new meter.

BD Viva Needles

BD Viva needles are now a joint first line formulary option, along with GlucoRx needles. The Medicines Optimisation Team received reports that some patients would not switch to GlucoRx needles. APCO agreed in November 2016 to therefore add BD Viva needles as an option to offer GPs a second cost effective needle choice. BD Viva is available in the Drug Tariff:

- 4mm/32 gauge 90 needles per box £5.36
- 5mm/31 gauge 90 needles per box £5.36
- 8mm/31 gauge 90 needles per box £5.36

SO WHAT?

- Practices should switch all appropriate patients, who are **not** already using GlucoRx needles, to the cost effective BD Viva needles.
- When issuing needles for a new patient, remember that GlucoRx or BD Viva are the first line options.

Insulin Administration Patient Safety Alert

NHS Improvement has issued a patient safety update on withdrawing insulin from pen devices. Pen-shaped devices are commonly used by patients for subcutaneously injecting insulin. The strength of insulin can vary in pen devices, but can be adjusted to take account of this variation and ensure the correct dosage is delivered. If patients are unable to use their pen device as normal, they may require a healthcare professional's help. Where this has happened, NHS Improvement has been made aware of patient safety incidents involving staff using insulin syringes and needles to extract insulin directly from pen devices or refill cartridges. Insulin syringes have graduations only suitable for calculating doses of standard 100 units/mL insulin. If insulin extracted from a pen or cartridge is of a higher strength, and that is not considered in determining the volume required, it can lead to a significant and potentially fatal overdose.

While only a small number of low and no-harm reports of this type have been identified, the practice appears to occur more widely. To support the safe use of insulin pen devices, **practices should warn staff that extracting insulin from pen devices or cartridges is dangerous and must not happen.** Practices should ensure that staff are trained and competent in using insulin pens and that training is available. If insulin overdose occurs rapid action is needed to prevent fatal hypoglycaemia; staff should be aware of how to handle overdose.

SO WHAT?

- Identify whether incidents involving inappropriate use of insulin pen devices could occur in your practice.
- Consider if immediate action is needed to reduce the risk of incidents, including ensuring access to appropriate equipment and training wherever insulin is administered.
- Share this alert to all clinical staff who prescribe, dispense or administer insulin.

Stroke Prevention Audit Results

NICE CG180 for Atrial fibrillation (AF) recommends that people with AF who have a $CHA_2DS_2VAS_C$ stroke risk score of 2 or above are offered anticoagulation. Since August 2014, GP practices in Oxfordshire have participated in a bi-annual stroke prevention audit to identify the percentage of patients on any oral anticoagulant in each $CHADS_2$ and $CHA_2DS_2VAS_C$ score range. 100% of practices have participated in this audit. In August 2016 anticoagulation was achieved in between 57.6% and 94.5% of patients with $CHA_2DS_2VAS_C$ scores greater than 1, the average being 80%. This is an improvement from the February 2016 audit which showed that anticoagulation was achieved in between 46.7% and 93.4% of patients with $CHA_2DS_2VAS_C$ scores greater than 1, the average being 77.2%. This has been an excellent audit showing great improvement for our patients in Oxfordshire. We anticipate this good work will continue next year.

Results

Patients with a CHADS2 score > 1 and on any oral anticoagulant:

Date	31/08/2014	28/02/2015	31/08/2015	29/02/2016	31/08/2016
Average % on any oral anticoagulant	69.9%	72.7%	72.7%	78.7%	81.4%

Patients with a $CHA_2DS_2VAS_C$ > 1 and on any oral anticoagulant:

Date	31/08/2014	28/02/2015	31/08/2015	29/02/2016	31/08/2016
Average % on any oral anticoagulant	67.2%	69.9%	70.8%	77.2%	80%

Oral Anticoagulation Information Booklets

It is important to clearly inform patients of key safety information regarding the use of anticoagulants. If patients don't receive clear and consistent written instructions about what they should be concerned about there is a serious risk of harm to them. The National Patient Safety Agency has clear guidance that this kind of information should be issued to patients receiving anticoagulation. Drug information booklets and patient alert cards for NOACs can be ordered directly from the drug companies using the details below.

Drug	Drug Company	Medical Information email	Direct Medical Information number
Apixaban	Bristol-Myers Squibb	medical.information@bms.com	0800 7311 736
Dabigatran	Boehringer Ingelheim	medinfo@bra.boehringer-ingelheim.com	01344 742 579
Edoxaban	Daiichi Sankyo	medinfo@daiichi-sankyo.co.uk	01748 828 818
Rivaroxaban	Bayer plc	Medical.information@bayer.co.uk Booklets and alert cards can be downloaded and printed from http://www.xarelto-info.co.uk/hcp/	01653 563 116
Warfarin	Booklets and patient alert cards can be ordered the Primary Care Support England (PCSE) supply system		

OUHFT Medicines Information Leaflet Updates

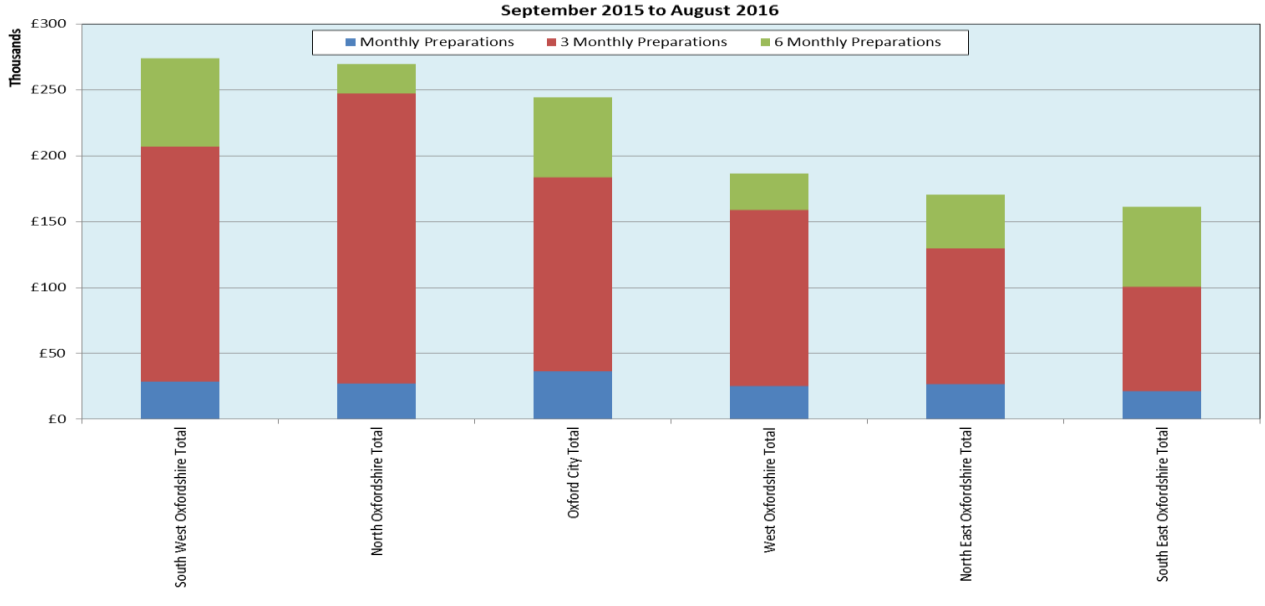
The Medicines Information Leaflet (MIL) for 'Elective surgery and invasive procedures in patients taking warfarin or a NOAC' was updated in September 2016 and is available here. The MIL covers the management of patients on warfarin or a NOAC undergoing elective procedures, grouped into three categories: major surgery (excluding vascular surgery), minor surgery and endoscopy. GPs should note that according to the Dalteparin Guideline and Shared Care Protocol for Primary Care, supply of LMWH for patients who need bridging at home before surgery should come from the hospital. This should be discussed and arranged during the pre-operative assessment.

SO WHAT?
The hospital should supply LMWH for patients who require bridging at home before surgery, therefore GPs should not receive such requests.

Gonadotropin-releasing Hormone (GnRH) Analogues in Prostate Cancer

The six monthly preparation of triptorelin (Decapeptyl SR 22.5mg) has been previously endorsed as the most cost effective and practical GnRH analogues and it is therefore our first choice GnRH analogue for the treatment of prostate cancer within the licensed indications. An updated guideline is now available on the intranet here.

The graph below shows the cost* of GnRH analogues prescribing across Oxfordshire. In the 12 month period between September 2015 and August 2016, just over £1.3million were spent on goserelin, leuprorelin and triptorelin (all indications) and three monthly preparations still account for the majority (66%) of the spend. This is followed by 6 monthly preparations (21%) and then monthly preparations (13%).



*Note: Costs are calculated for all indication due to unavailability of separate data for specific indication.

Monthly preparations: Goserelin 3.6mg (Zoladex), Leuprorelin 3.75mg (Prostap SR DCS), Triptorelin 3mg (Decapeptyl SR) and Triptorelin 3.75mg (Gonapeptyl Depot)
3 monthly preparations: Goserelin 10.8mg (Zoladex LA), Leuprorelin 11.25mg (Prostap 3 DCS) and Triptorelin 11.25mg (Decapeptyl SR)
6 monthly preparation: Triptorelin 22.5mg (Decapeptyl SR)

Gonadotropin-releasing Hormone (GnRH) Analogues in Prostate Cancer

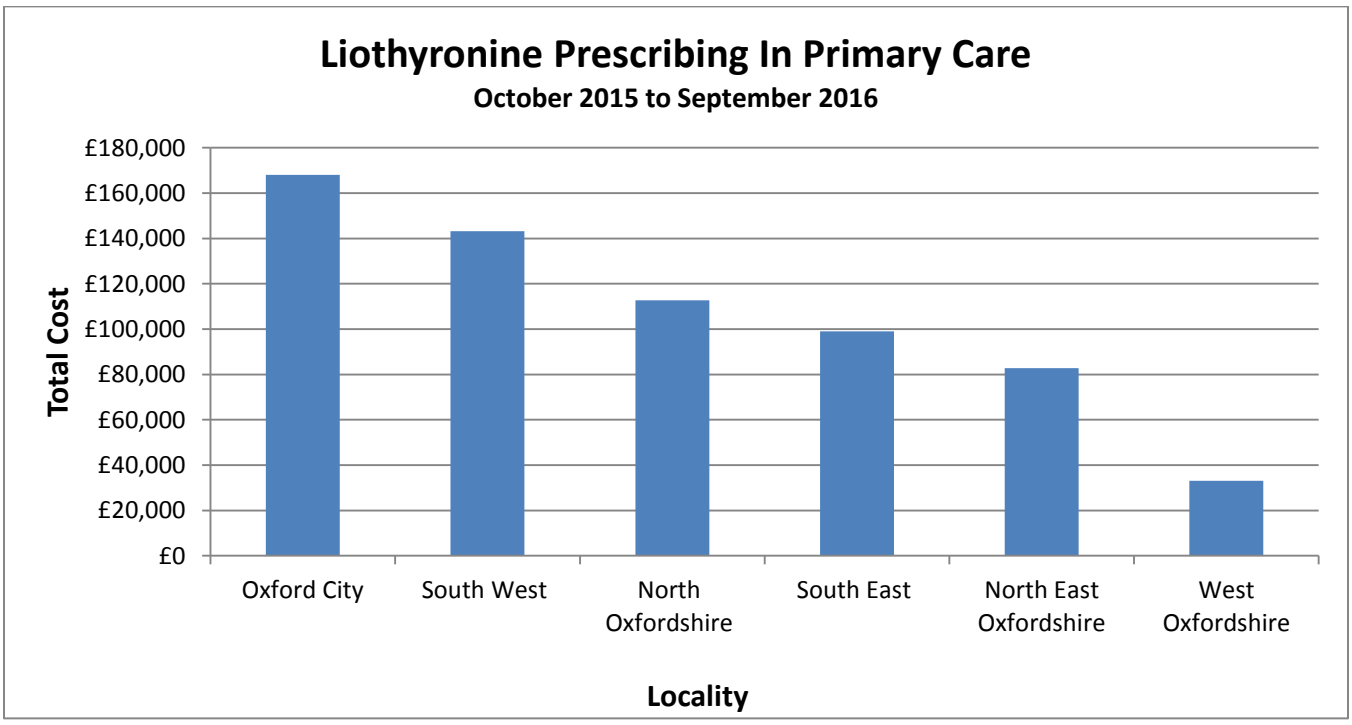
Switching from monthly and three monthly preparations to the preferred 6 monthly preparation (within licensed indications) presents a substantial cost saving opportunity, both in terms of reducing appointment/ consultation times and treatment costs. Over the coming months the Medicines Optimisation Team will be working with practices to promote cost-effective prescribing of GnRH analogues in line with the local guideline.

Potential savings per patient	Switch from monthly to 6 monthly preparations	Switch from 3 monthly to 6 monthly preparations
Reduction in appointment or consultation times	Up to 85%	Up to 54%
Annual savings on treatment costs	Up to 8%	Up to 19%

Liothyronine Prescribing in Primary Care

Liothyronine is a drug that has been featured by PrescQIPP as a 'Drug to Review for Optimised Prescribing'.

In 2015-16 approximately £505k was spent on liothyronine prescribing in OCCG and it is likely to be £600k in 2016-17. There is a concern that many of the liothyronine patients in primary care result from historical use rather than in line with latest guidance.



Liothyronine Prescribing in Primary Care Continued.

Price comparison – Drug Tariff December 2016

Product	Cost per 28 tablets
Levothyroxine 25 microgram tablets	£2.85
Levothyroxine 50 microgram tablets	£1.65
Levothyroxine 100 microgram tablets	£1.65
Liothyronine 20 microgram tablets	£258.20
Other brands without a UK license ('specials')	£41 to £337 based on average cost per item (ePACT)

The prescribing of liothyronine solely or in combination with levothyroxine is no longer routinely supported by the Royal College of Physicians, except for in a very small number of patients, principally those awaiting radioactive iodine treatment. As much of the prescribing is historical, these patients require review as liothyronine therapy is far more variable and leaves patients prone to adverse effects; including anginal pain, cardiac arrhythmias, palpitations, muscle cramps, tachycardia, diarrhoea, restlessness, excitability, headache, flushing, sweating, excessive loss of weight and muscular weakness. Vomiting, tremor, insomnia, fever, heat intolerance, transient hair loss in children and hypersensitivity reactions including rash, pruritus and oedema have also been reported. If necessary endocrinologist advice should be sought, although some patients may not have been initiated on liothyronine by an endocrinologist.

Primary Care Advice on Switching From Liothyronine (T3) to Levothyroxine (T4)

- Check that the patient has been accurately diagnosed as genuinely hypothyroid (i.e. confirmed as biochemistry in accredited NHS lab). If not, stop treatment and show thyroid stimulating hormone (TSH) rise. In these cases, start with standard dose of levothyroxine and titrate.
- Switch from liothyronine (including liothyronine-containing products) to the equivalent dose of levothyroxine, taking into account any other levothyroxine the patient is also co-prescribed and the patient's most recent thyroid function tests.
- The BNF states that 20–25 micrograms of liothyronine is equivalent to 100micrograms of levothyroxine. Patients should have repeat TFTs 1-2 months after switching to determine the appropriateness of their new dose.
- If unsure on dose, switch to a standard dose of T4 and then titrate as usual.
- Secondary care advice should be obtained for any patients under the care of a specialist endocrinologist before switching.

SO WHAT?

- Ensure that prescribing of thyroid hormones is in line with British Thyroid Association (BTA) guidance BTA_Hypothyroidism Statement
- Commence new patients requiring thyroid replacement on levothyroxine.
- Review all patients taking liothyronine (alone or in combination with levothyroxine) for suitability for switching to levothyroxine. Switch all suitable patients to levothyroxine.
- For patients under the care of a relevant specialist, involve the specialist in the decision to switch to levothyroxine.

References: https://www.prescqipp.info/-liothyronine/send/225-liothyronine/2359-b121-liothyronine-drop-list
http://www.british-thyroid-association.org/news/BTA_Hypothyroidism_Statement.pdf

Prescribing of Antibiotics for Dental Prophylaxis

OCCG has recently been made aware of a number of requests for GPs to provide prophylactic antibiotics prior to dental procedures on FP10 prescriptions. The prescribing of antibiotics for prophylaxis against infective endocarditis when patients undergo dental treatment is not routinely recommended by NICE CG64 and these requests should not be accepted. Whilst GPs may consider the prescribing of medication for dental emergencies when within their competency to do so, they should not be requested to do so for non-emergency medication.

It is also worth highlighting that other items such as toothpastes, mouth washes, high fluoride preparations (Duraphat®) and ulcer healing treatments should be prescribed by the dentist treating a patient and not the GP. Approximately £5.8M is spent on these additional items annually within the NHS. A supporting poster which can be displayed within practices by PrescQIPP can be found here.

SO WHAT?
GPs should not be requested to prescribe antibiotics for prophylaxis against infective endocarditis when patients undergo dental treatment.

Medication Supply Issues

Nuelin SA 175mg and 250mg tablets are out of stock until the end of February 2017. Patients on theophylline **must be maintained on the same brand** as the rate of absorption between modified release preparations can vary. As theophylline has a narrow therapeutic range, switching brand has the potential for toxic or subtherapeutic levels to occur.

The respiratory team advise that patients should be changed to the nearest available dose of another brand. Theophylline levels should be checked 3-5 days after the switch. Levels should be taken 4-6 hours post dose, in most individuals aim for a plasma level of 10-20mg/L (55-110 micromol/L).

The following brands of theophylline do not have any supply issues:

- Uniphyllin Continus MR Tablets 200mg, 300mg, 400mg (Napp Pharmaceuticals)
- Slo-Phyllin MR Capsule 60mg, 125mg, 250mg (Merk)

There may be a variation in licensing for different medicines containing the same drug.

For further advice please contact the Medicines Optimisation Team on OCCG.medicines@nhs.net

Calcium & Vitamin D Supplementation

The paper "Web of industry, advocacy, and academia in the management of osteoporosis" by two New Zealand endocrinologists, Andrew Grey and Mark Bolland, has brought into doubt the benefit of regular calcium & vitamin D supplementation.

The researchers state that their results show that increasing calcium in the diet is not likely to decrease risk of broken bones, on current evidence.

They suggest that the benefits found from calcium supplements are small and inconsistent, and "probably have an unfavourable risk benefit profile" given the known side effects of taking calcium, such as cardiovascular events, kidney stones, and gastrointestinal symptoms.

Referring to one study that found a significant reduction in hip fracture, the researchers suggest that this group of elderly women were known to have been deficient in vitamin D, and therefore to have been at higher risk of fracture.

A 2014 Cochrane review had a slightly different conclusion:

Vitamin D alone is unlikely to prevent fractures in the doses and formulations tested so far in older people. Supplements of vitamin D and calcium may prevent hip or any type of fracture. There was a small but significant increase in gastrointestinal symptoms and renal disease associated with vitamin D and calcium. This review found that there was no increased risk of death from taking calcium and vitamin D. (A recent UK study supports the Cardiovascular Safety of Calcium and Vitamin D Supplementation).

Until there is further conclusive evidence it is worth reviewing patients on calcium & vitamin D to assess the benefits vs risks of continued supplementation. Currently NICE and many of the osteoporosis organisations still support the place of calcium and vitamin D, as patients on bone strengthening medicines for osteoporosis need to be calcium & vitamin D replete. Calcium obtained from food sources, such as dairy products, leafy green vegetables, fortified milks such as soya milk and some juices and breakfast cereals has not been found to be harmful, and therefore should be encouraged, despite the possibility that it might not prevent fractures. https://www.iofbonehealth.org/calcium-calculator

Other recommendations could include weight-bearing exercise such as walking, running, playing tennis, lifting weights and dancing that can strengthen bones (swimming and bicycling are less likely to contribute to bone strength). Cutting down on alcohol and stopping smoking can also help.

Compliance with calcium & vitamin D supplements, where indicated, can be a challenge. Calci-D is the most cost effective and is only once a day. An alternative could be 1 pint of milk and vitamin D supplement of 800 – 1000 units. Potential savings for the CCG if Calci-D is used are £100,000 per annum.

Calcium & Vitamin D Supplementation Continued.

Choice of supplement

Brand	Formulation	Strength	Calcium equivalence	Dose	Pack size	Cost /28 days
Calci-D	**Chewable tablet**	**2.5g + 1000iu**	**1g**	**1 tab daily**	**28**	**£2.25**
Accrete D3	Tablet	1.5g + 400iu	600mg	1 tab twice daily	60	£2.75
Adcal-D3 Caplets	Tablet	750mg + 200iu	300mg	2 tab twice daily	112	£2.95
Calceos	Chewable tablet	1.25g + 400iu	500mg	1 tab twice daily	60	£3.34
Natecal D3	Chewable tablet	1.5g + 400iu	600mg	1 tab twice daily	60	£3.39
Adcal-D3	Chewable tablet	1.5g + 400iu	600mg	1 tab twice daily	56	£3.65
Cacit-D3	Effervescent granules in sachet	1.25g + 440iu	500mg	1 or 2 sachets daily	30	£3.79 - £7.58
Calcichew D3 Forte	Chewable tablet	1.25g + 400iu	500mg	1 tab twice daily	60	£3.96
Calcichew D3 500mg/400iu Caplets	Tablet	1.25g + 400iu	500mg	1 tab twice daily	100	£4.16
Calcichew D3	Chewable tablet	1.25g + 200iu	500mg	2-3 tab daily	100	£4.30 - £6.45
Adcal-D3 Dissolve	Effervescent tablet	1.5g + 400iu	600mg	1 tab twice daily	56	£5.99
Calcichew D3 Once Daily	Chewable tablet	2.5g + 800iu	1g	1 tab daily	30	£6.30

Prices: MIMS November 2016

References:
https://www.sciencebasedmedicine.org/are-guidelines-for-calcium-and-vitamin-d-rooted-in-evidence-or-vested-interests/
http://www.nhs.uk/news/2015/09September/Pages/are-calcium-pills-any-good-at-preventing-bone-fractures.aspx
http://www.bmj.com/content/351/bmj.h4580
https://www.iofbonehealth.org/news/scientific-evidence-supports-role-calcium-and-vitamin-d-good-bone-health