

Drug Dilemmas for Dentists

Christine Randall

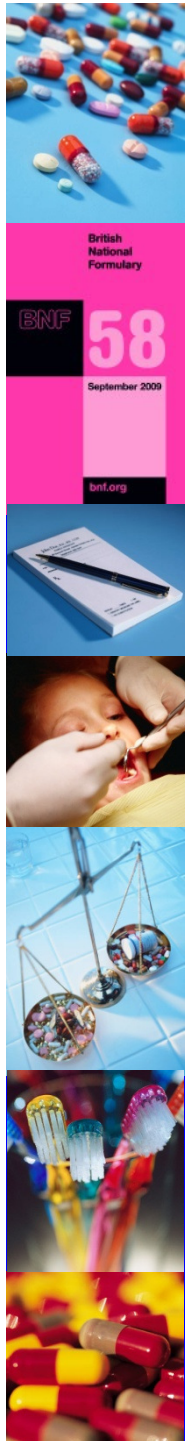
*Senior Medicines Information Pharmacist
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October 9th 2009

*All Wales Special Interest Group
Llandrindod Wells*

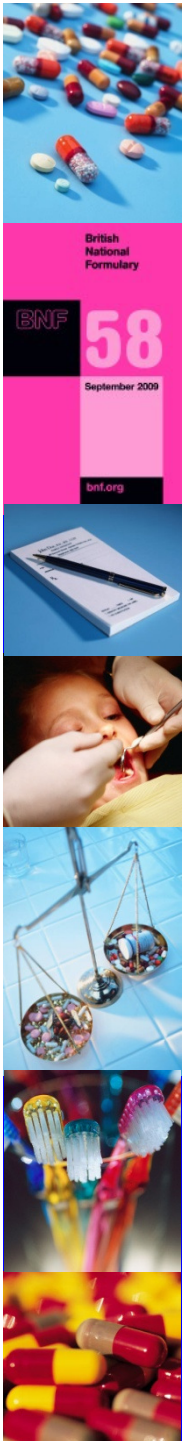
Outline

- Introduction to NWMIC
- Medicines and the law
- Drug interactions
- Warfarin and antiplatelets
- Corticosteroids



North West Medicines Information Centre (Liverpool)

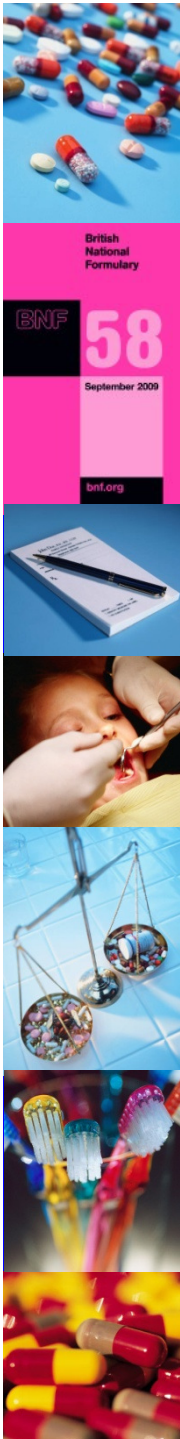
- Part of the national *UKMi* medicines information pharmacists network
- UKMi* specialist advisory centre for 'Medicines in Dentistry'
- MHRA Regional Monitoring Centre for adverse drug reaction reporting



What do we do?

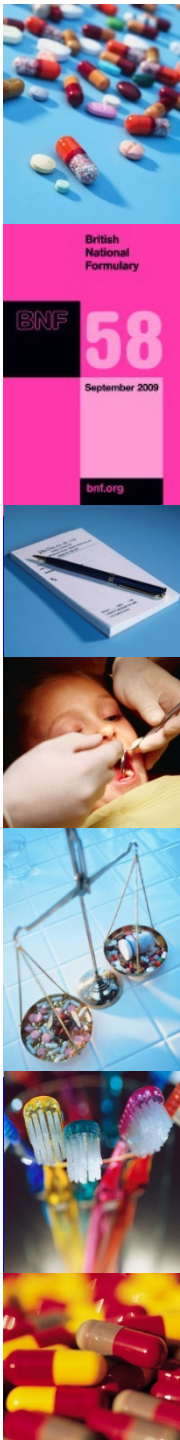
- Answer enquiries
 - Health professionals in the North West
 - Dentists in UK
 - NHS Direct
- Proactive information – bulletins, Q&As
- YCC North West – ADR reporting
- Teaching

Tel: 0151 794 8206
Email: druginfo@liv.ac.uk



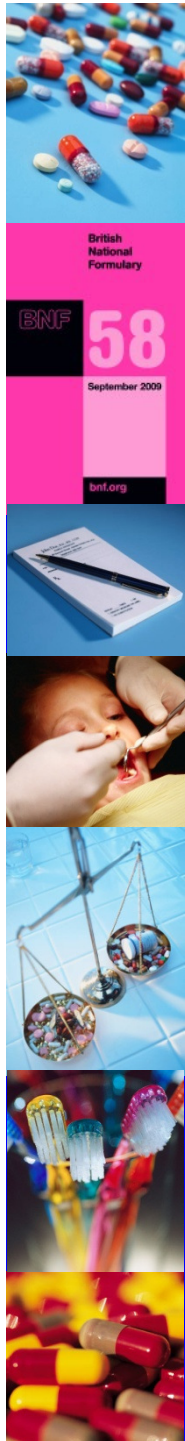
Dental enquiries to NWMIC – 2008/9

- 901 / 3731 dental enquiries in 2008/9 (24%)
- 798 (89%) directly from dentists
 - 36% - interactions/adverse effects
 - 22% - endocarditis/prophylaxis
 - 13% - antibiotic use/choice
 - 11% - bisphosphonates
 - 11% - availability/prescribing issues
 - 10% - patients on warfarin/antiplatelets
 - 6% - involved local anaesthetic use
 - 6% - pregnancy or breast feeding
 - 5% - controlled drugs
 - 3% - managing patients on steroids
 - 2.3% - fluoride

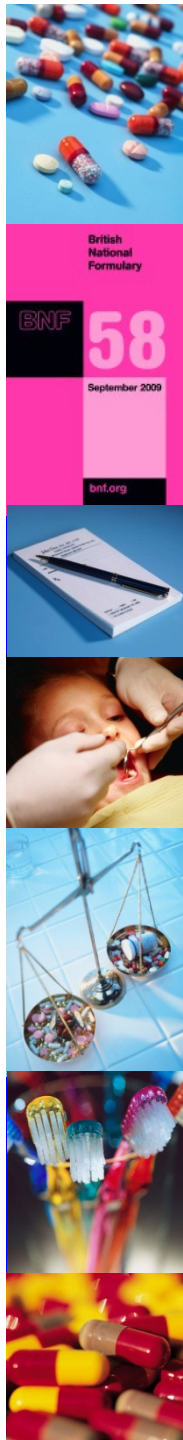


Recent issues

- Midazolam – ordering, storing, disposing of, SOPs
- Citanest availability
- Adcortyl in Orabase discontinuation
- Colophony in Duraphat varnish

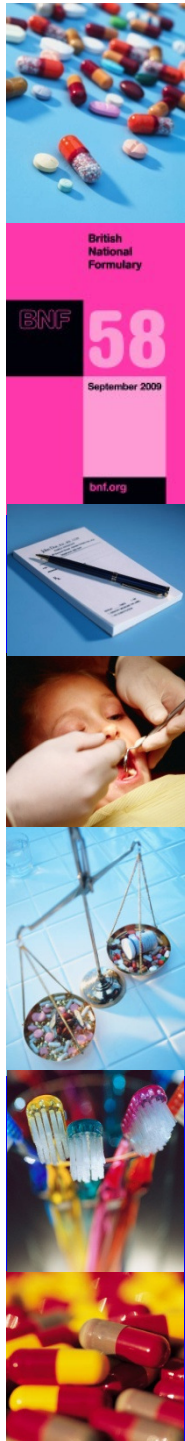


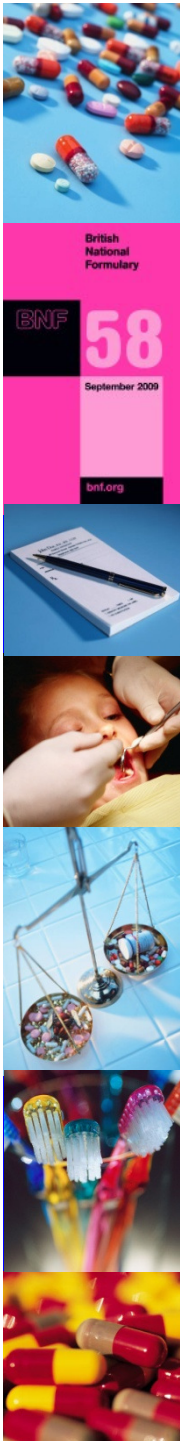
Medicines, dentists and The Law



Medicines and the law

- Medicines Act 1968
- Misuse of Drugs Act 1971
- The NHS Act 1977
- Misuse of Drugs Regulations 2001



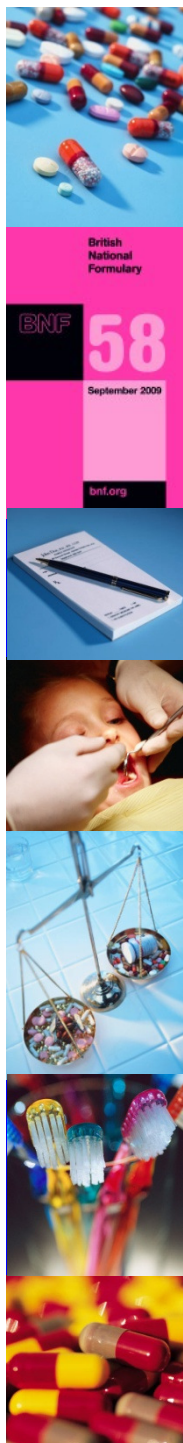


Medicines Act 1968

- Governs all aspects of medicinal products
 - Licensing of medicines
 - Requirements for packaging and labelling of medicines
 - Sale and supply of medicines

Medicines Act

- The basic principle of the Medicines Act is that medicines may only be sold or supplied by retail from registered pharmacies except those that are on the general sales list.
 - Dentists are exempt from the requirement that all Non-GSL medicines must only be supplied from a pharmacy (private patients only)
- PoMs can be supplied from pharmacies only in accordance with a practitioners prescription

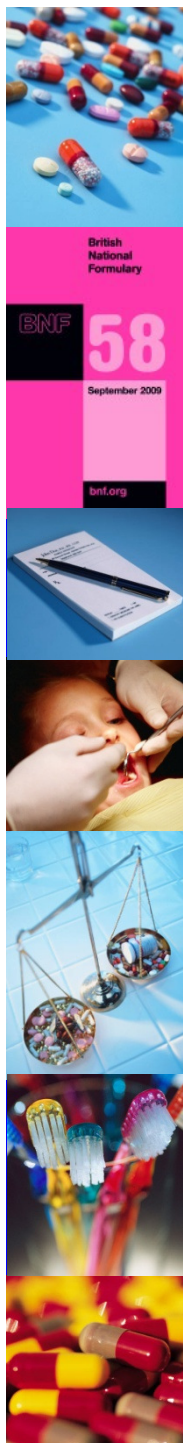


Categories of Medicinal Products

- Licensed medicines
 - GSL (general sales list)
 - P (pharmacy only)
 - PoM (prescription only medicine)

P

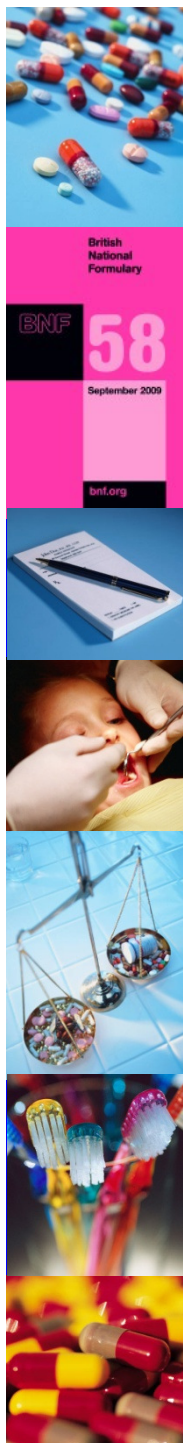
PoM



Categories of Medicinal Products

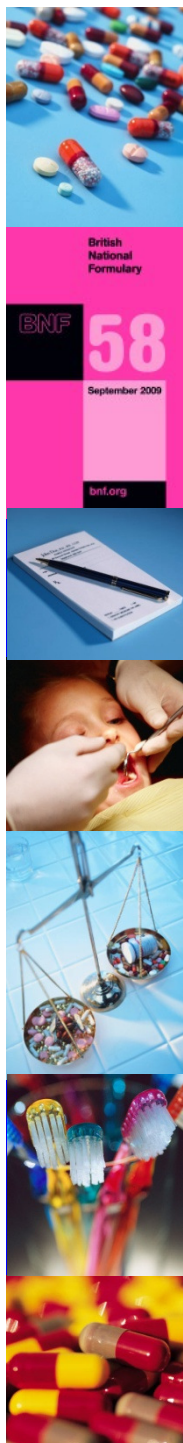
• Unlicensed medicines

- “Specials” – specially manufactured medicines e.g. tranexamic acid mouthwash
- Imported medicines e.g. some latex free LAs
- Unlicensed use of licensed medicines (“off-label use”) e.g. beclometasone inhaler or betnesol dispersible tabs for mouth ulcers
- Most herbal and alternative medicines



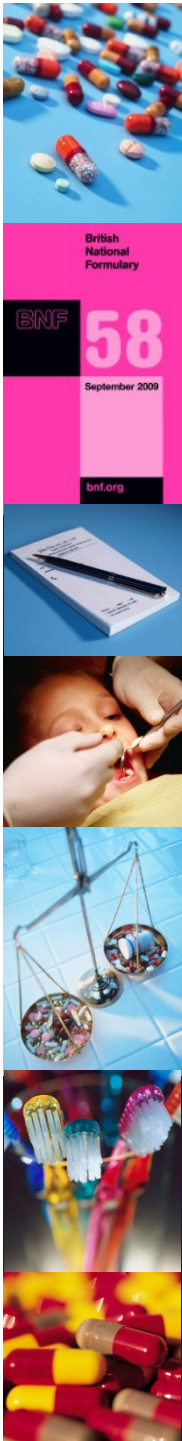
Prescribing Outside the Product Licence

- The Medicines Act does not prohibit
- Alters and probably increases the prescribers professional responsibility and potential liability
- Patient explanation - explain the rationale for treatment
- Explain discrepancies in the Patient Information Leaflet (PIL)

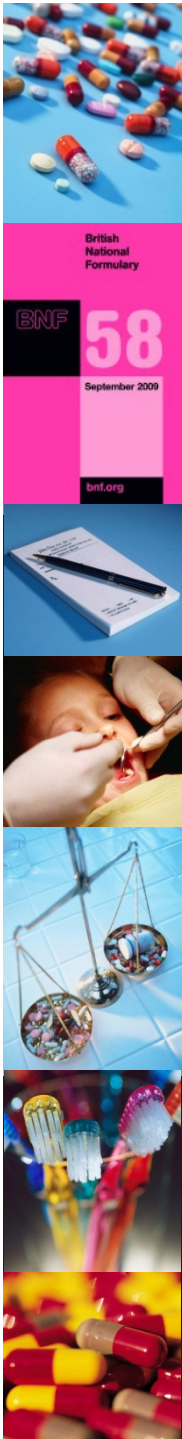


Categories of Medicinal Products

- Medical Devices
- Not governed by Medicines Act BUT in the NHS prescribing restrictions apply
- Dentists cannot prescribe any devices, GMPs restricted to list Drug Tariff
 - e.g. Curasept mouthwash cannot be prescribed on an NHS prescription
 - Gengigel/Gelclair OK on WP10 but not WP10D
- [Most dental materials are Medical Devices]



What can dentists prescribe?



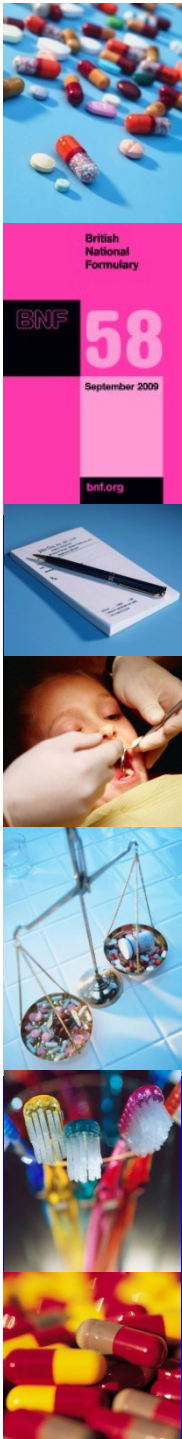
What can dentists prescribe?

• For NHS patients

- Currently restricted to the drugs on the Secretaries of State list (see BNF)

• For private patients

- There is no legal restriction
- Ethically restricted to areas in which you are competent



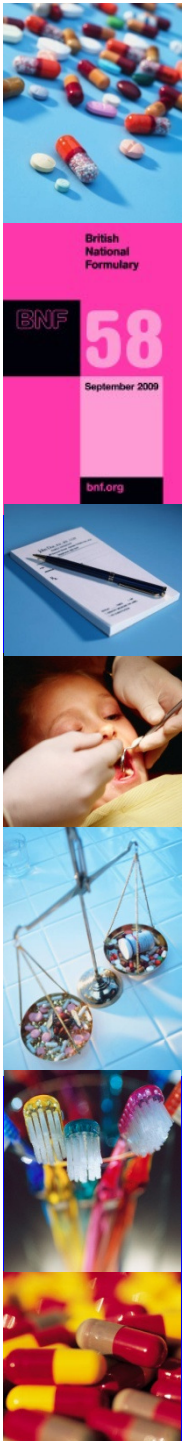
Prescribing

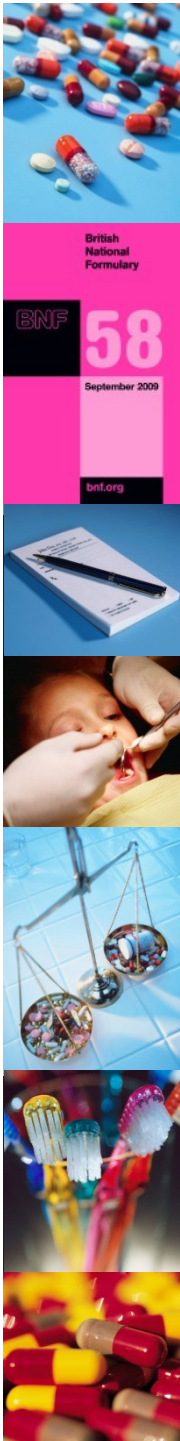
• NHS

- If you need to prescribe a medicine not on the DPF list, the GDS regs allow you to provide a private prescription to an NHS patient
- Dentists must prescribe on WP10D Wales (or FP10D England, GP14 Scot, HS47 NI)

• Private

- A private (not NHS) prescription must be used

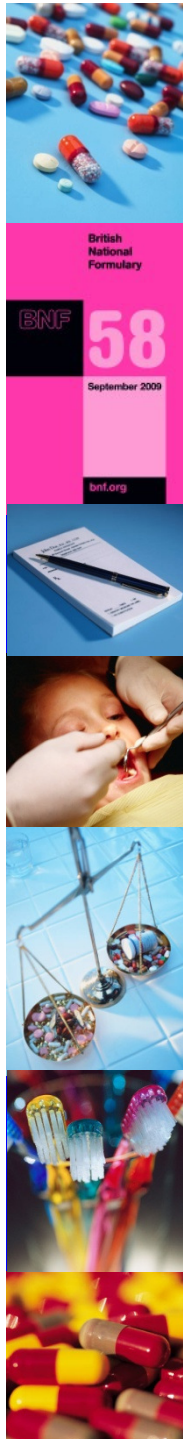


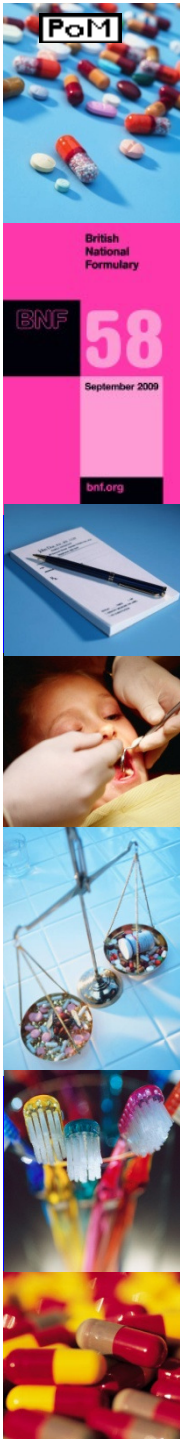


Additions to DPF list since September 2008

- Alcohol free chlorhexidine mouthwash
- Antihistamines
 - Cetirizine
 - Loratadine
 - Chlorphenamine oral solution
- Proton pump inhibitors
 - Lansoprazole
 - Omeprazole
- Co-amoxiclav tabs/suspension

Supplying medicines





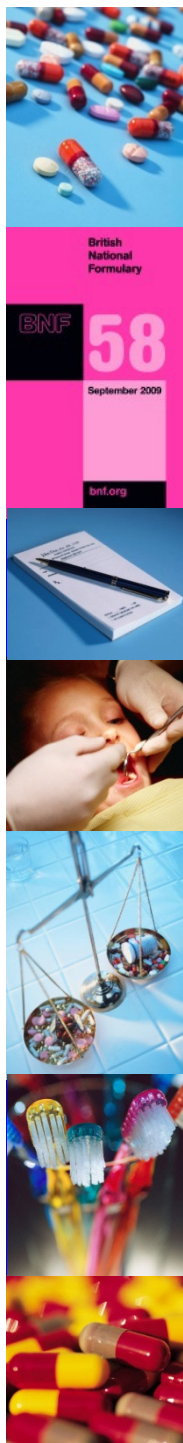
Supplying medicines

- NHS patients (The National Health Service Regulations 2005)
 - Only medications required for immediate use
 - Cannot supply PoM or P medicines
- Private patients
 - Can sell all PoM and P medicines
 - Must comply with labelling regs for dispensed medicinal products
 - Must comply with packaging regs

Duraphat toothpaste

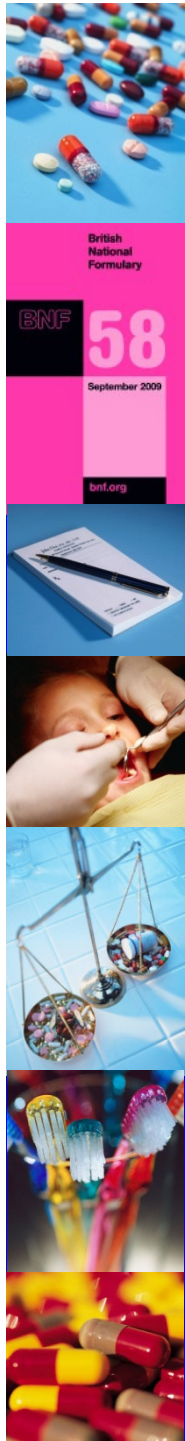


Prescription Only Medicine both strengths
prescribable on WP10D



Labelling regulations

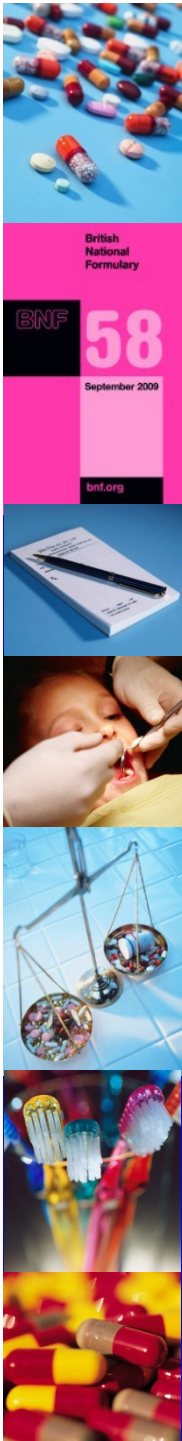
The Medicines for Human Use (Marketing Authorisations Etc.) Regulations 1994 (Schedule 5 – Labelling)

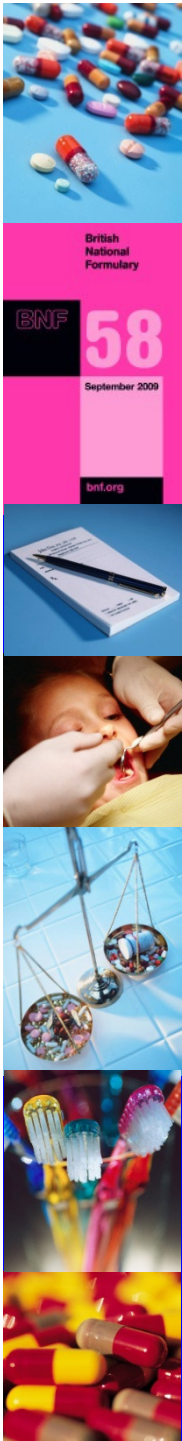


Labelling regs for dispensed medicines

• Medicines issued to a patient must be labelled with:

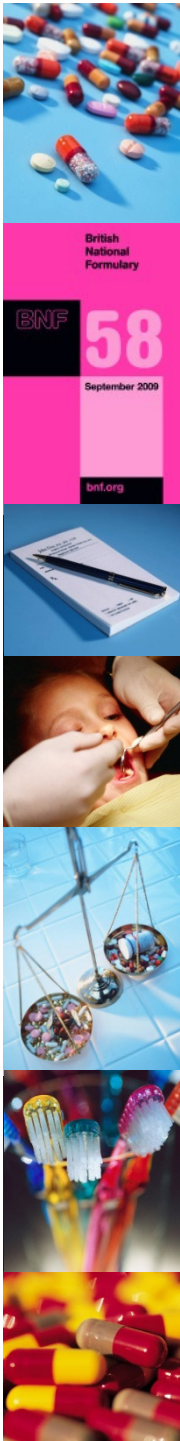
- the name of the product
- directions for use
- any precautions relating to the use of the medicinal product
- the name of the person to whom the medicine is to be administered
- the date of dispensing





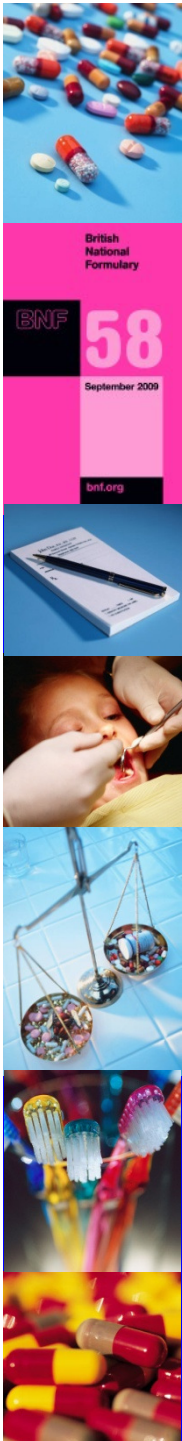
Labelling regs – cont.

- the name and address of the dentist supplying the medicinal product
 - the words “Keep out of reach of children” or words with a similar meaning
 - the phrase “For external use only” if it is a preparation for external use only.
- A container need not be labelled if it is enclosed in a package which is labelled with the required particulars.



Dental Care Professionals & Medicines responsibilities

- DCPs are competent to administer LAs by infiltration or IDB
- DCPs cannot prescribe medicines i.e. do not have the discretion and independence to decide
 - if and/or what LAs are to be used
 - if an antimicrobial should be used
- The dentist must prescribe/specify in writing the choice and dose of all medicines



Consultation

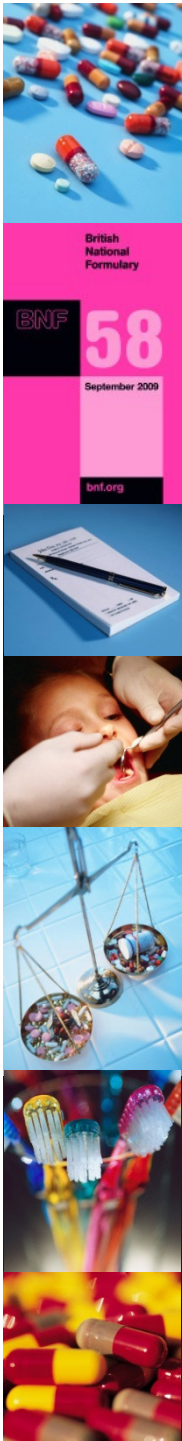
MLX 362: Sale, supply and administration of medicines by Dental Hygienists and Dental Therapists under a Patient Group Direction (PGD)

Issued: 28/08/09

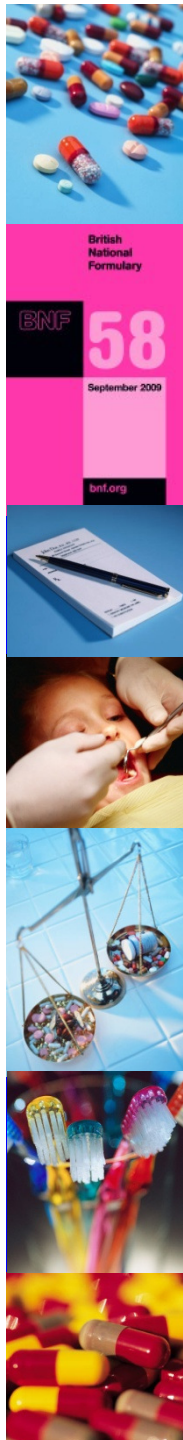
Comments by: 20/11/09

DCP PGD consultation

- Named hygienists and therapists will be able to
 - Independently choose and administer local anaesthetics
 - Issue named medicines directly to patients e.g. fluoride preparations including Duraphat toothpaste
- All supplies must be labelled as dispensed medicines



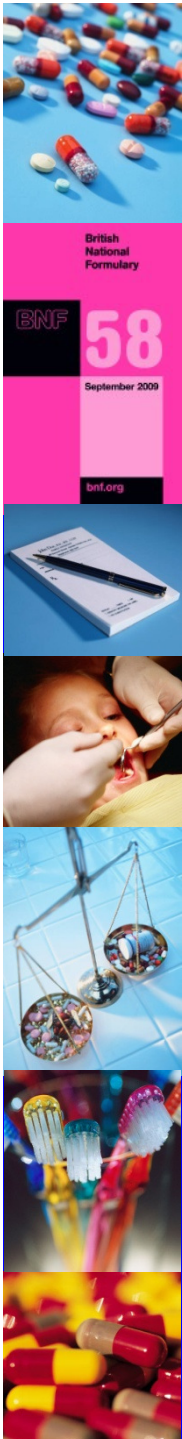
Significant drug interactions in Dentistry



Drug interactions

Antibiotics

- Combined oral contraceptives
 - additional contraceptive measures should be used with all antibiotic courses (FPA advice, see BNF section 7.3.1)
- Warfarin
 - Possible potentiation of warfarin with all antibiotics (counsel patient about risk) but only metronidazole needs to be avoided if at all possible



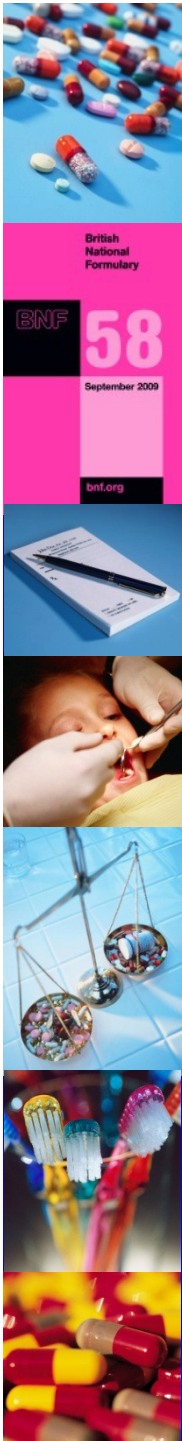
Drug Interactions

Azole antifungals

(e.g. miconazole, fluconazole, itraconazole)

Warfarin

- An established and clinically important interaction leading to increased anticoagulant effect of warfarin. Monitor the INR if the combination is essential.



Drug interactions 'Statins'

(e.g. simvastatin, atorvastatin)

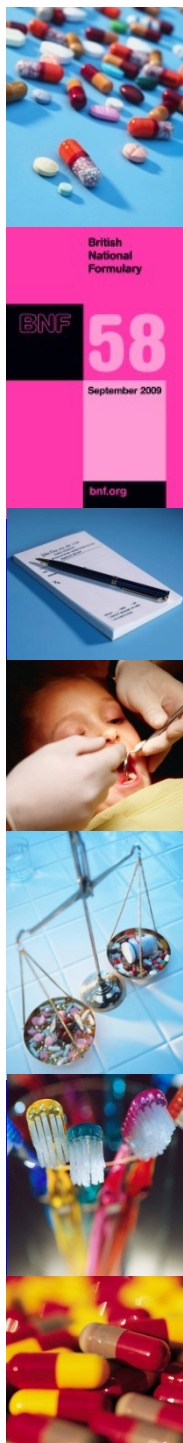
CONTRAINDICATED

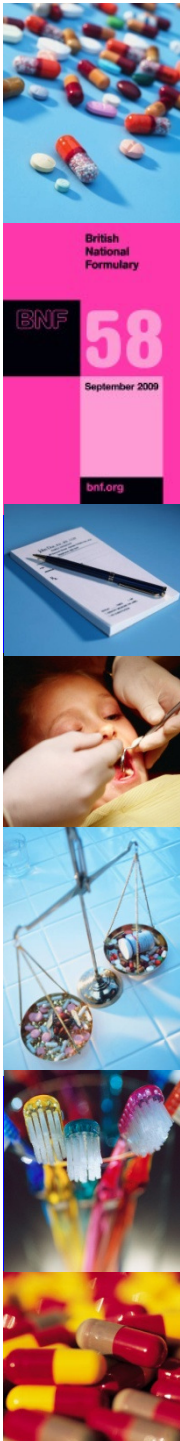
- Simvastatin + erythromycin
- Simvastatin + miconazole

Other combinations not contraindicated but warnings apply

The interaction- macrolide antibiotics / azole antifungals

- inhibit metabolism of statins leading to high blood levels and an increased risk of myopathy and rhabdomyolysis





Drug Interactions

Methotrexate

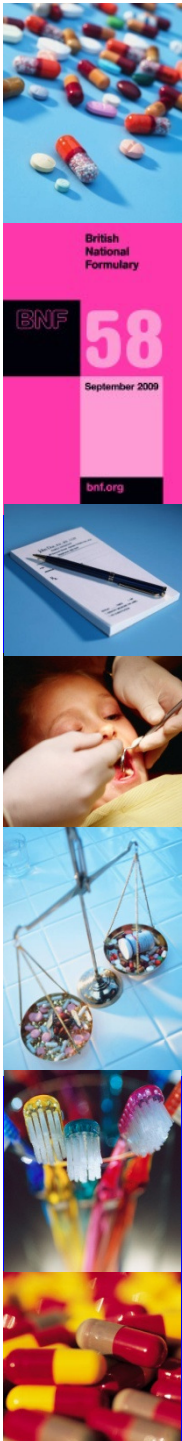
- Methotrexate and penicillin antibiotics
 - ? methotrexate toxicity, combination not contraindicated but close monitoring is advisable
- Methotrexate and NSAIDs / paracetamol
 - toxicity may be dose related and lowest risk in those taking low-dose **methotrexate** for psoriasis or rheumatoid arthritis with normal renal function.

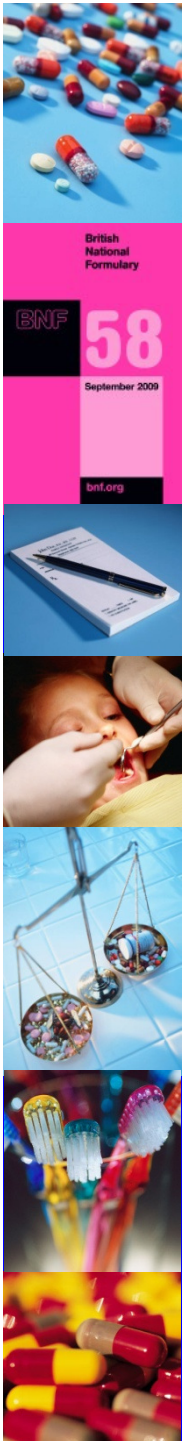
Drug Interactions

NSAIDs

• Addition of NSAIDs to the following medicines can increase the risk of GI bleeding

- Low dose aspirin
- Selective serotonin reuptake inhibitors (SSRIs)
- Warfarin





Drug interactions

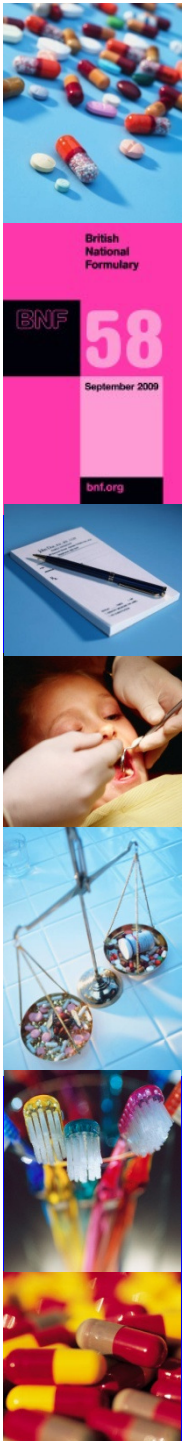
Local anaesthetics

- No clinically significant interactions occur with plain local anaesthetics at the small and localised doses used in dentistry

Drug interactions

Vasoconstrictors

- Tricyclic antidepressants & MAOIs
 - No clinically important interaction
- Beta-blockers
 - possibility of increased BP, although unlikely to be clinically important. The minimum amount of local anaesthetic containing the lowest concentration of **adrenaline** should be used
- Diuretics
 - K⁺ may be low due to diuretic action leading to possible increase in cardiotoxicity. The minimum amount of local anaesthetic containing the lowest concentration of **adrenaline** should be used

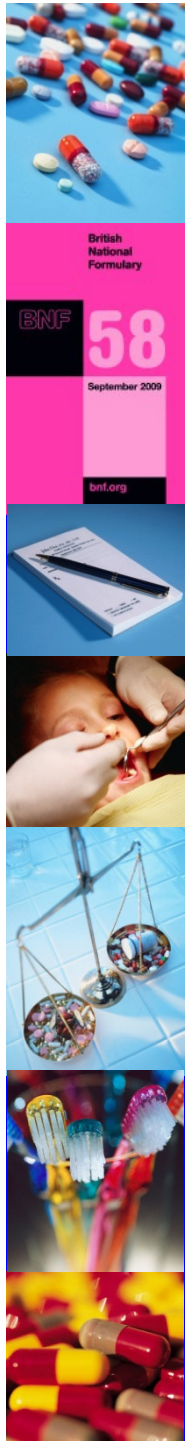


Adrenaline

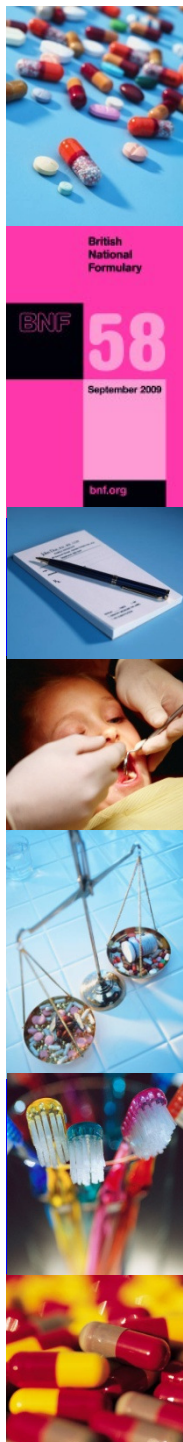
- Light physical work → 4mcg/ml adrenaline (plasma)
- Continuous IV infusion of 10mcg/ml adrenaline solution → 4mcg/ml adrenaline (plasma)
- 2mls lidocaine with 1:80,000 adrenaline = 25mcg adrenaline
- IV admin 25mcg adrenaline → <4mcg/ml (plasma)
- Anxiety and pain → ↑↑↑ adrenaline

UKMi Medicines Q&A

What is the clinical significance of potential drug interactions with local anaesthetic preparations used in primary care dentistry?

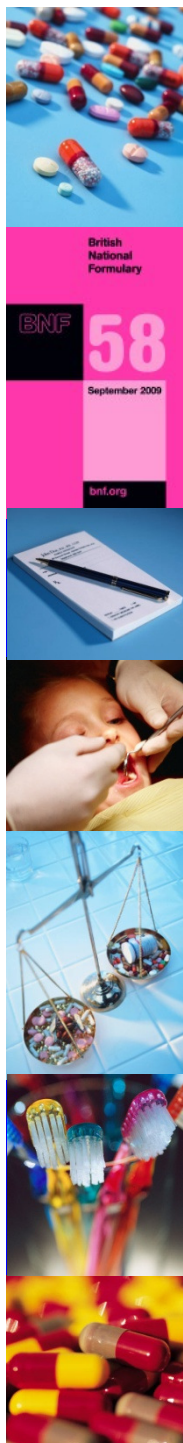


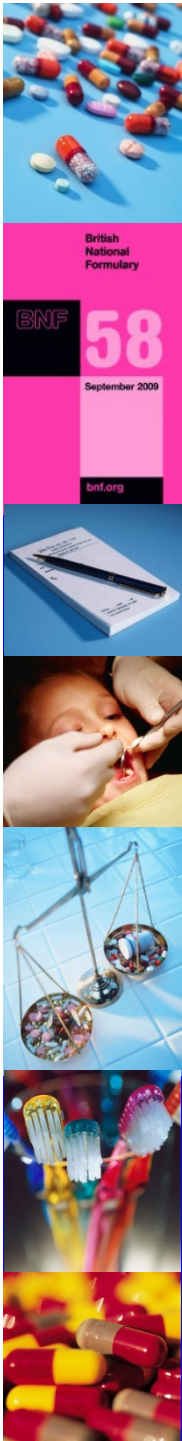
Endocarditis prophylaxis guidelines



NICE endocarditis guidance March 2008

- BUT ...
- Still some controversy and confusion – cardiologists, dentists and patients
- Fear of litigation – but adherence to NICE affords robust legal protection





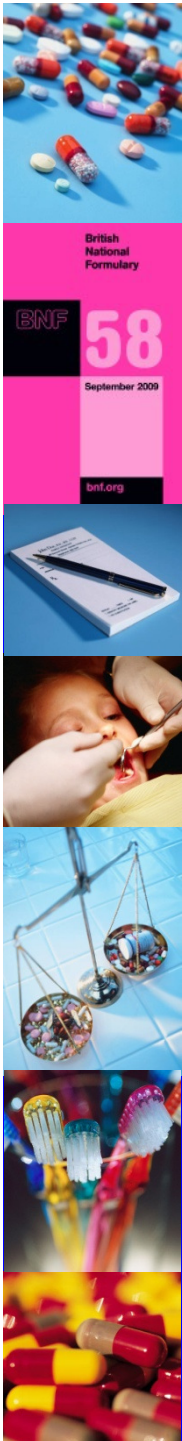
Post-NICE 2008: antibiotic prophylaxis prior to dental procedures for patients with pulmonary arteriovenous malformations (PAVMs) and hereditary haemorrhagic telangiectasia

C. Shovlin, K. Bamford & D. Wray

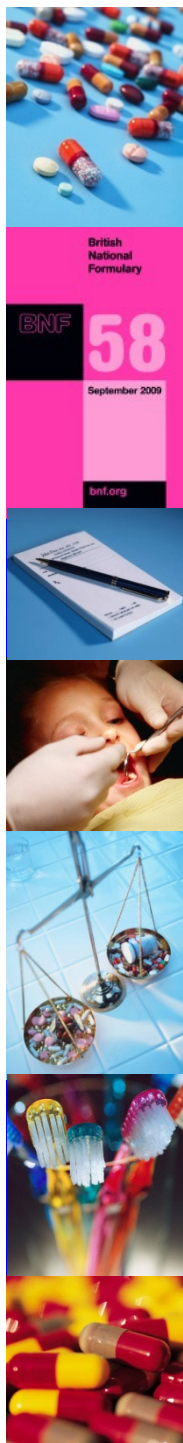
British Dental Journal 2008; 205: 531 - 533

Prophylaxis – not endocarditis?

- The principles established in the NICE endocarditis guidance can be extrapolated to most scenarios
- Bacteraemia associated with toothbrushing and eating is \geq that from tooth extraction
- Therefore prophylaxis will not be required

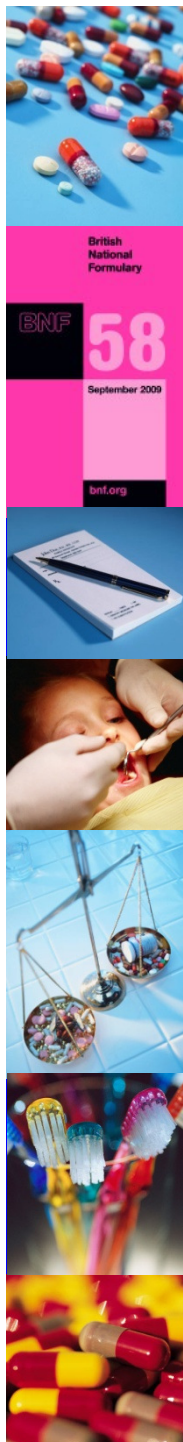


Patients on warfarin or antiplatelet therapy

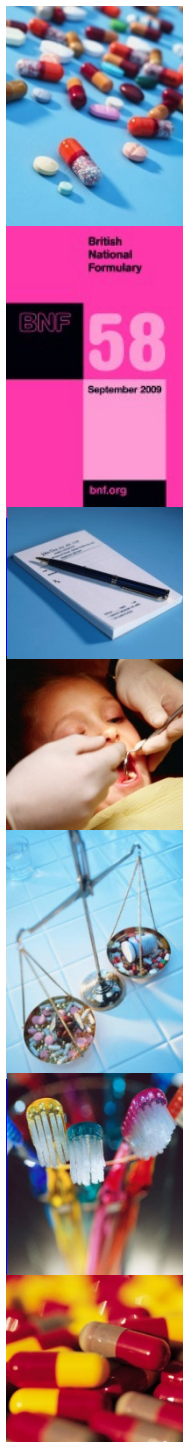


Surgical management of the primary care dental patient on warfarin/antiplatelets

- 1999 - 50 calls in a year
- Confusion as dental texts, teaching and literature varied
- National haematology guidance not specific for dentistry
- Initially prepared Q&A document in 2000/2001, updated in 2003/2004, and 2007 (2009 update underway)



Surgical management of the primary care dental patient on warfarin/antiplatelets



SURGICAL MANAGEMENT OF THE PRIMARY CARE DENTAL PATIENT ON WARFARIN

Summary

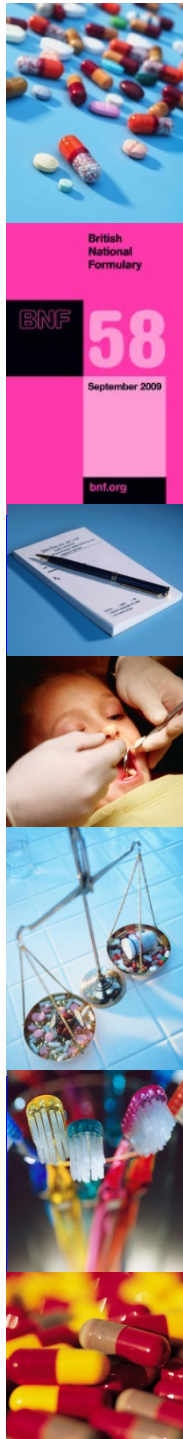
Warfarin does not need to be stopped before primary care dental surgical procedures

- The consensus from reviews on the management of dental patients taking warfarin is that patients requiring dental surgical procedures in primary care and who have an International Normalised Ratio (INR) below 4.0 should continue warfarin therapy without dose adjustment.
- Continuing warfarin during dental surgical procedures may increase the risk of postoperative bleeding requiring intervention.
- Most cases of postoperative bleeding are easily treated with local measures such as packing with a haemostatic dressing, suturing and pressure.
- Stopping warfarin increases the risk of thromboembolic events; the risk of thromboembolism after withdrawal of warfarin therapy outweighs the risk of oral bleeding as bleeding complications, while inconvenient, do not carry the same risks as thromboembolic complications.
- Stopping warfarin is no guarantee that the risk of postoperative bleeding requiring intervention will be eliminated as serious bleeding can occur in non-anticoagulated patients.

Tranexamic acid mouthwash should not be used routinely in primary dental care

- Tranexamic acid mouthwash in primary dental practice is expensive, difficult to obtain and of no more benefit than other local haemostatic measures.
- When used alone with no local haemostatic dressing, tranexamic acid mouthwash reduces postoperative bleeding compared to placebo mouthwash.
- When used in combination with local haemostatic measures and suturing, tranexamic acid mouthwash provides little additional reduction in postoperative bleeding.

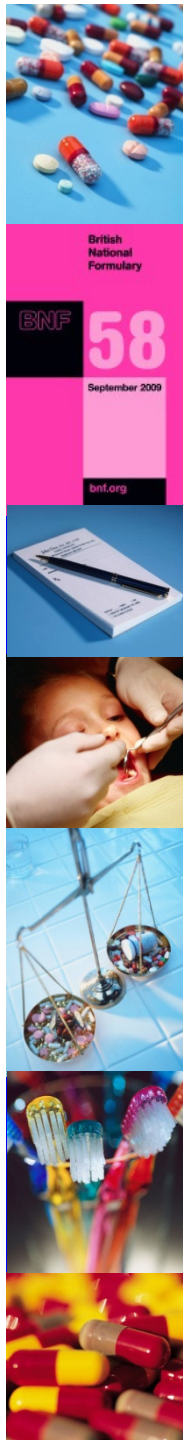
National Patient Safety Agency (NPSA)



Risk assessment of anticoagulant therapy 2006

NPSA Patient safety alert


Actions that can make anticoagulant therapy safer



NHS
National Patient Safety Agency

Patient safety alert

18



Alert

28 March 2007

Immediate action

Action

Update

Information request

Ref: NPSA/2007/18

For response by:

- All NHS and independent sector organisations in England and Wales

For action by:

- The chief pharmacist/pharmaceutical advisor should lead the response to this alert, supported by the chief executive, medical director, nursing director and clinical governance lead/clinical manager

We recommend you also inform:

- Medical staff
- Nursing staff
- Pharmacy staff
- General practitioners
- Community pharmacists
- Dental surgeons
- Patient advice and liaison service staff in England
- Community health councils in Wales
- Medical laboratory scientists

The NPSA has informed:

- Chief executives of acute trusts, primary care organisations, ambulance trusts, mental health trusts and local health boards in England and Wales
- Chief executive/regional directors and clinical governance leads of strategic health authorities (England) and regional offices (Wales)
- Healthcare Commission
- Healthcare Inspectorate Wales
- Commission for Social Care Inspection

- Medicines and Healthcare products Regulatory Agency
- Welsh Health Supplies
- Royal colleges and societies
- NHS Direct
- Relevant patient organisations and community health councils in Wales
- Independent Healthcare Forum
- Business Services Centre (Wales)
- Independent Healthcare Advisory Services

Actions that can make anticoagulant therapy safer

Anticoagulants are one of the classes of medicines most frequently identified as causing preventable harm and admission to hospital.¹⁻³ Managing the risks associated with anticoagulants can reduce the chance of patients being harmed in the future.

This patient safety alert has been developed in collaboration with the British Society for Haematology (BSH) and a broad range of other clinical organisations and individual clinicians, patients and patient groups.

Action for the NHS and the independent sector

The National Patient Safety Agency (NPSA) is recommending that NHS and independent sector organisations in England and Wales take the following steps:

- 1 Ensure all staff caring for patients on anticoagulant therapy have the necessary work competences. Any gaps in competence must be addressed through training to ensure that all staff may undertake their duties safely.
- 2 Review and, where necessary, update written procedures and clinical protocols for anticoagulant services to ensure they reflect safe practice, and that staff are trained in these procedures.
- 3 Audit anticoagulant services using BSH/NPSA safety indicators as part of the annual medicines management audit programme. The audit results should inform local actions to improve the safe use of anticoagulants, and should be communicated to clinical governance, and drugs and therapeutics committees (or equivalent). This information should be used by commissioners and external organisations as part of the commissioning and performance management process.
- 4 Ensure that patients prescribed anticoagulants receive appropriate verbal and written information at the start of therapy, at hospital discharge, on the first anticoagulant clinic appointment, and when necessary throughout the course of their treatment. The BSH and the NPSA have updated the patient-held information (yellow) booklet.
- 5 Promote safe practice with prescribers and pharmacists to check that patients' blood clotting (International Normalised Ratio, INR) is being monitored regularly and that the INR level is safe before issuing or dispensing repeat prescriptions for oral anticoagulants.

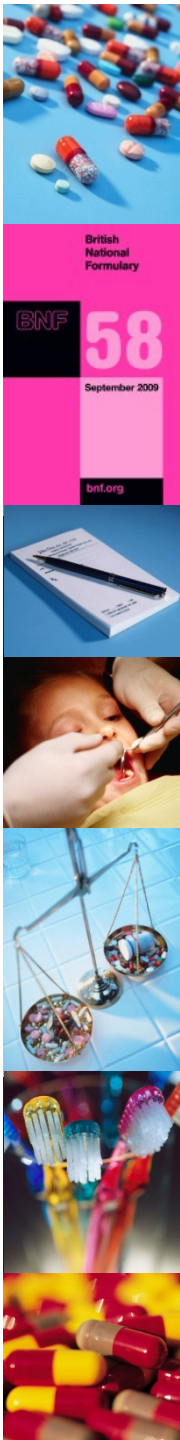
NPSA Patient safety alert

Actions that can make anticoagulant therapy safer

- 7 Ensure that dental practitioners manage patients on anticoagulants according to evidence-based therapeutic guidelines. In most cases, dental treatment should proceed as normal and oral anticoagulant treatment should not be stopped or the dosage decreased inappropriately.

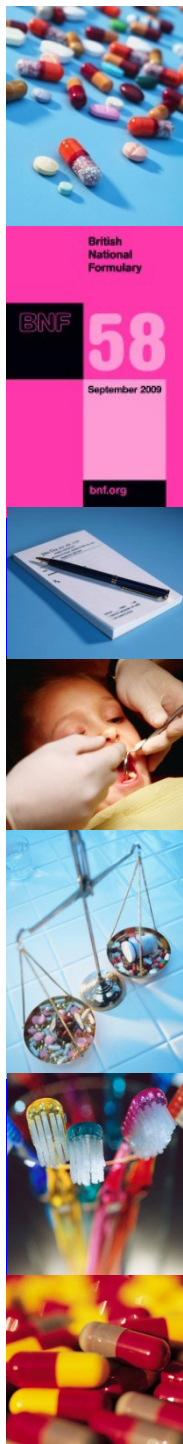
In some cases, patients on anticoagulant therapy have had their dental treatment delayed or cancelled, their anticoagulant therapy temporarily discontinued or their dose reduced. This has, in part, been due to a lack of understanding of evidence-based practice guidelines. In most cases, dental treatment can proceed as normal and oral anticoagulant treatment should not be stopped or the dosage decreased inappropriately.

The NPSA has been working with the British Dental Association and the BSH to produce a poster outlining safe practice guidelines for patients on anticoagulants requiring dental therapy. The NPSA is arranging to send a copy of this poster to every dental practice in England and Wales. A copy of this poster is available at www.npsa.nhs.uk/health/alerts



NPSA Patient safety alert

Actions that can make anticoagulant therapy safer



NHS
National Patient Safety Agency

Managing patients who are taking warfarin and undergoing dental treatment

General guidelines

- If patients on warfarin who require dental surgery have an International Normalised Ratio (INR) of below 4.0, they can usually receive their dental treatment in primary care without needing to stop their warfarin or adjust their dose.
- The risk of thromboembolism after temporary withdrawal of warfarin therapy outweighs the risk of oral bleeding following dental surgery.
- Patients on warfarin may bleed more than normal, but bleeding is usually controlled with local measures.

Advice to be given to patients

Advice for patients is available in the patient leaflet, *Oral Anticoagulant Therapy: Important information for dental patients*.

Drug Interactions

Amoxicillin
There have been anecdotal reports that amoxicillin interacts with warfarin causing increased prothrombin time and/or bleeding, but documented cases are relatively rare. However, a single three gram dose for endocarditis prophylaxis has NOT been shown to produce a clinically relevant interaction. Patients requiring a course of amoxicillin should be advised to be vigilant for any signs of increased bleeding.

Clindamycin
Clindamycin does not interact with warfarin when given as a single dose for endocarditis prophylaxis. Clindamycin is restricted to specialist use for treatment and should not be used routinely for dental infections due to its serious side effects. There is a single case report of an interaction between warfarin and clindamycin.

Erythromycin and other macrolide antibiotics (for example, azithromycin)
Macrolide antibiotics interact with warfarin unpredictably and only in certain individuals. Patients should be advised to be vigilant for any signs of increased bleeding.

If increased bleeding occurs then the patient should be advised to contact the GP or anticoagulant clinic to arrange additional INR testing and dose review.

Metronidazole
Metronidazole interacts with warfarin and should be avoided if possible. If it cannot be avoided, the warfarin dose may need to be reduced by a third to a half, and re-adjusted again when the antibiotic is discontinued. Contact the GP or anticoagulant clinic to arrange additional INR testing and dose review.

Non-steroidal anti-inflammatory drugs
Drugs including ibuprofen, aspirin and diclofenac, should not be used as analgesics in patients taking warfarin.

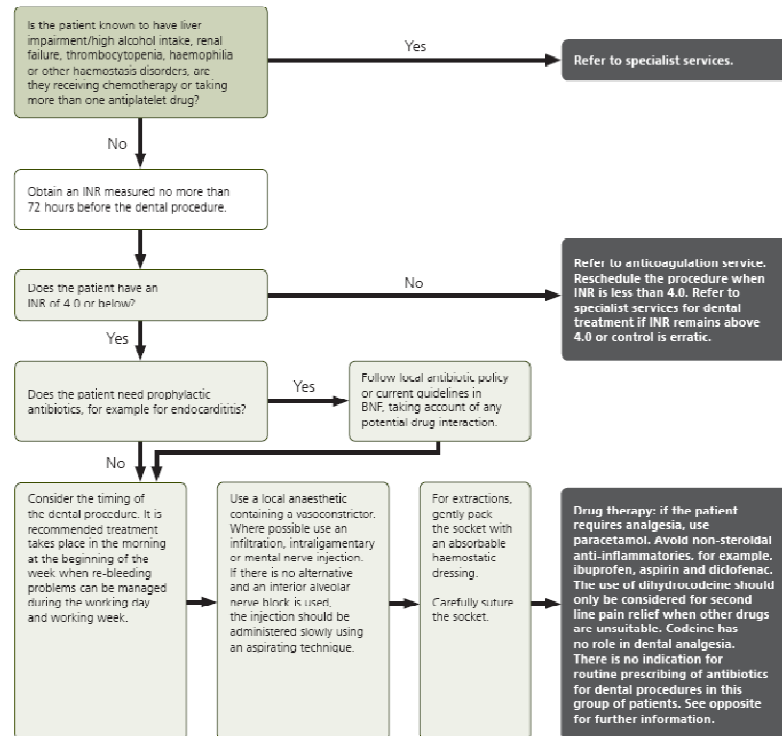
Dental surgery covered by this advice includes:

Treatment where the INR does not need to be checked:

- Prostodontics
- Conservation
- Endodontics

Treatment where the INR does need to be checked (follow flow diagram):

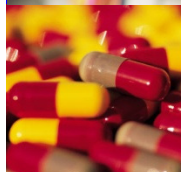
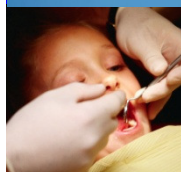
- Extractions
- Minor oral surgery
- Periodontal surgery
- Biopsies



All patient safety incidents should be reported to the PCT using local reporting procedures, or directly to the NPSA using the e-form on the NPSA website at www.npsa.nhs.uk. This document was produced with the support of the British Dental Association and advice from the Haemostasis and Thrombosis Task Force of the British Committee for Standards in Haematology (BCSH) - see www.bcsht.org.uk. The information is based on guidance from UK Medicines Information. Surgical management of the primary care dental patient on warfarin. North West Medicines Information Centre, March 2004.

UKMi
UK Medicines Information

NPSA - Information for dental patients on warfarin



NHS
National Patient
Safety Agency

Oral Anticoagulant Therapy

Important information
for dental patients

This document was produced with the support of the British Dental Association

General guidelines

It is important that you follow the advice in the book you were given when you started taking your anticoagulant medicine.

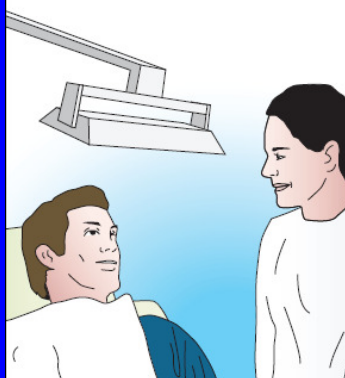
Taking anticoagulants can make it more difficult for your blood to clot. For this reason certain types of dental procedure, such as having a tooth removed, can cause you to bleed more easily and for longer than other patients.

Before your treatment

When you make an appointment, tell the dental surgeon you are taking an anticoagulant medicine.

Remind your dentist before any dental treatment that you are taking an anticoagulant medicine.

Your dentist may ask you to have an extra blood test before your treatment. This is to make sure that you do not bleed too much during or after the procedure. It is important that you attend this blood test because your dentist wants to have up-to-date information about how your blood clots.



After your treatment

It is important that you look after the blood clot that forms so that you do not start bleeding again. You should:

- rest while the local anaesthetic wears off and the clot fully forms (this usually takes two to three hours);
- take some painkillers (not medicines like ibuprofen or aspirin, or products containing these medicines) on a regular basis for the first two days, starting as soon as possible after the treatment;
- avoid rinsing your mouth for 24 hours unless specifically advised to do so by a healthcare professional;
- avoid sucking hard or disturbing the clot with your tongue or anything else;
- avoid hot liquids and hard foods for the rest of the day;
- avoid chewing on the affected side until you are sure that a stable clot has formed. You should be careful not to disturb the clot;
- the day after treatment, rinse your mouth with warm salty water three or four times a day. This is a glass of warm, but not scalding, water containing a teaspoon of salt.

If bleeding continues or restarts

- You should apply pressure over the bleeding area using a folded, clean and damp handkerchief or gauze pad. The pad should be placed over the site of the bleed and you should bite down firmly for 20 minutes whilst sitting quietly in a chair.
- Avoid hot liquids and hard foods for the rest of the day.
- Avoid chewing on the affected side until you are sure that a stable clot has formed. You should be careful not to disturb the clot.

Contact your dentist if the bleeding does not stop.

If you have excessive or prolonged bleeding you should contact:

The surgery and out-of-hours/on-call dentist name and number should be inserted here.

Other medicines

Tell your dentist if you are taking any other medicines, herbal preparations or vitamin supplements including those that you have bought over the counter in a pharmacy or elsewhere.

Pain relief

Avoid taking medicines like ibuprofen or aspirin, or products containing these medicines. Your pharmacist will be able to advise you on this. Paracetamol should be used if you need pain relief, unless you are told otherwise.

It is often best to take the painkillers regularly for the first few days, starting as soon as possible after the treatment.

Antibiotics

Your dentist may prescribe antibiotics to stop you getting an infection after your dental treatment. It is important that you take the dose prescribed. You must take the container with you when you next go for a blood test so that the person monitoring you can read the information on the label.

It may be that you will need to have an extra blood test while you are taking antibiotics.

You should inform your anticoagulant clinic that you are taking antibiotics if you are not due to have a blood test for some time. You may be asked to come for a blood test earlier than planned.

www.npsa.nhs.uk

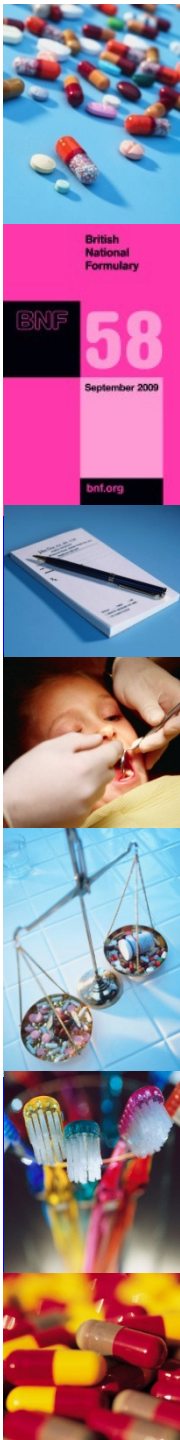
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UKM12
UK Medicines Information

Guidelines for the management of patients on oral anticoagulants requiring dental surgery

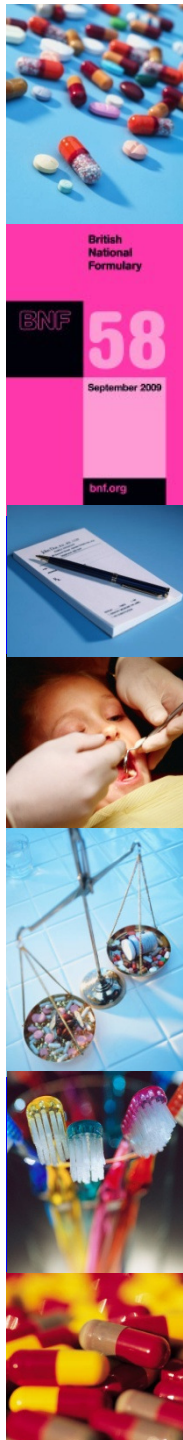
• In patients with a stable INR in the therapeutic range 2-4 (i.e. <4)

- Oral anticoagulants should not be discontinued in the majority of patients requiring out-patient dental surgery including dental extraction
- The risk of bleeding may be minimised by:
 - The use of oxidised cellulose (Surgicel) or collagen sponges and sutures
 - 5% tranexamic acid mouthwashes.
- An INR check is recommended 72 hours prior to dental surgery
- Patients taking warfarin should not be prescribed non-selective NSAIDs and COX-2 inhibitors



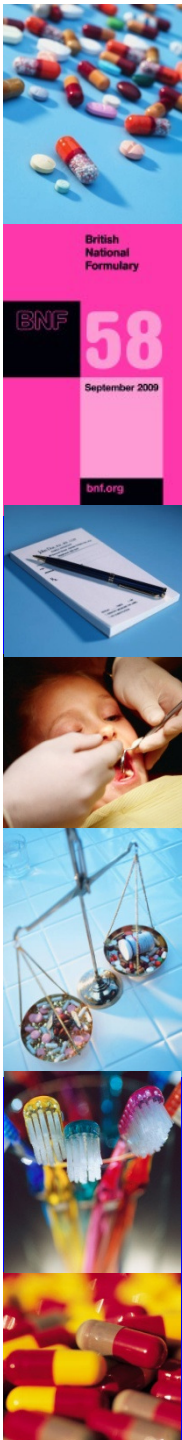
From BNF 55 (March 2008)

- BNF now reflects NPSA/BDA/BSH guidance

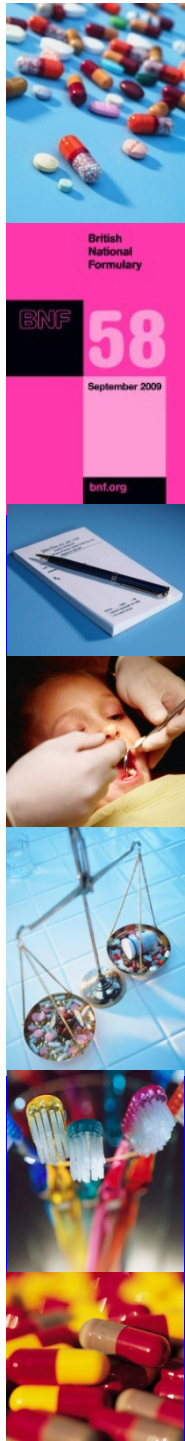


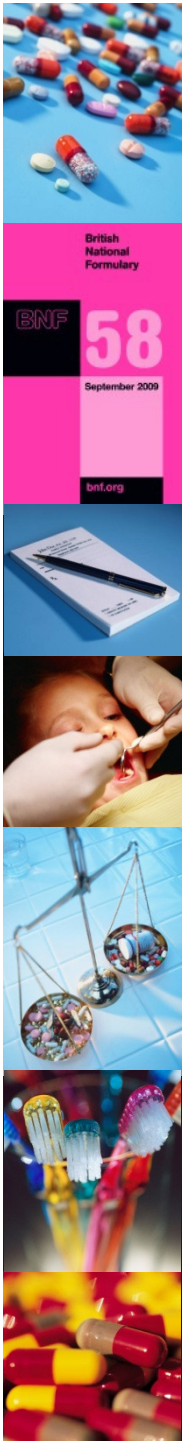
Antiplatelets

- Antiplatelet meds increase the bleeding time (clopidogrel > aspirin)
 - Apply local measure to stop bleeding
- Aspirin + clopidogrel → ↑↑ bleeding time (anecdotally could be 45 -60 mins)
- Ask patient what happens when they cut themselves
- Timing of the procedure
- Refer ??? X



Do patients taking corticosteroids need any additional cover for dental procedures?



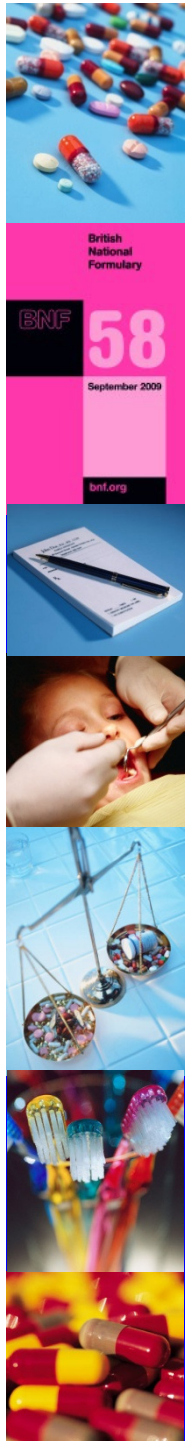


Corticosteroid cover?

- BNF Section 6.3
- ‘A suitable regimen for corticosteroid replacement, in patients who have taken more than 10 mg prednisolone daily (or equivalent) within 3 months of surgery, is:
 - *Minor surgery under general anaesthesia* — usual oral corticosteroid dose on the morning of surgery OR hydrocortisone 25–50 mg (usually the sodium succinate) IV at induction; the usual oral corticosteroid dose is recommenced after surgery

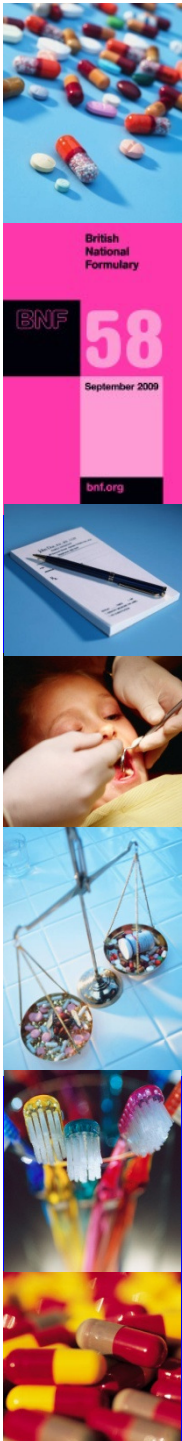
Corticosteroid cover?

- What is minor surgery?
 - Surgery undertaken under local anaesthetic and lasting under 1 hour
- The general anaesthetic is the biggest stress in minor surgery under GA

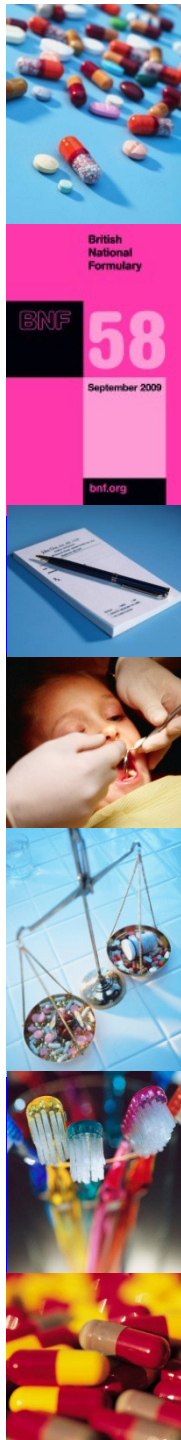


Corticosteroid cover?

- Below 10mg prednisolone suppression of HPA unlikely/limited \therefore stress response will occur
- Above 10mg prednisolone there will be enough steroid 'on board' to protect the patient
- Carry out procedures first thing in the morning.
- NB** this advice does **NOT** apply to patients with Addison's Disease



Patients with Addison's Disease



ADDISON'S DISEASE (PRIMARY ADRENAL INSUFFICIENCY)

POTENTIALLY LIFE-THREATENING STEROID DEPENDENCY

GLUCOCORTICOID MEDICATION REQUIREMENTS FOR SURGERY AND DENTISTRY

ADDISON'S CLINICAL ADVISORY PANEL (ACAP)
 These surgical guidelines have been prepared by Professor John Wass of the Churchill Hospital, Oxford, Dr Trevor Howlett of Leicester Royal Infirmary, Leicester, Dr Wiebke Ait of University Hospital, Birmingham and Dr Simon Pearce of the Royal Victoria Infirmary, Newcastle.

ACAP is a group of endocrinologists with an interest in adrenal medicine. It advises the Addison's Disease Self-Help Group on clinical matters. Further information about ACAP is available on the ADSHG website at www.addisons.org.uk

ACAP has also issued emergency treatment guidance for hypoadrenalism and a patient education leaflet, available at www.addisons.org.uk/publications.

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Type of procedure	Pre-operative and operative needs	Post-operative needs
Lengthy, major surgery with long recovery time <i>eg. open heart surgery, major bowel surgery, procedures needing ITU</i>	100mg hydrocortisone i/m just before anaesthesia	Continue 100mg hydrocortisone i/m every 6 hours until able to eat & drink normally (<i>discharged from ITU</i>). Then double oral dose for 48+ hours. Then taper the return to normal dose
Major surgery with rapid recovery <i>eg. caesarean section, joint replacement</i>	100mg hydrocortisone i/m just before anaesthesia	Continue 100mg hydrocortisone i/m every 6 hours for 24 - 48 hours (<i>or until eating & drinking normally</i>). Then double oral dose for 24 - 48 hours. Then return to normal dose
Labour and vaginal birth	100mg hydrocortisone i/m at onset of labour	Double oral dose for for 24 - 48 hours after delivery. If well, then return to normal dose
Minor surgery <i>eg. cataract surgery, hernia repairs, laparoscopy with local anaesthetic</i>	100mg hydrocortisone i/m just before anaesthesia	Double dose oral medication for 24 hours. Then return to normal dose
Invasive bowel procedures requiring laxatives <i>eg. colonoscopy, barium enema</i>	Hospital admission overnight with i/v fluids and 100mg hydrocortisone i/m during preparation. 100mg hydrocortisone i/m just before commencing.	Double dose oral medication for 24 hours. Then return to normal dose
Other invasive procedures <i>eg. endoscopy, gastroscopy</i>	100mg hydrocortisone i/m just before commencing.	Double dose oral medication for 24 hours. Then return to normal dose
Minor procedure <i>eg. skin mole removal with local anaesthetic</i>	Not usually required.	An extra dose only where hypoadrenal symptoms occur afterwards.
Major dental surgery <i>eg. dental extraction with general anaesthetic</i>	100mg hydrocortisone i/m just before anaesthesia.	Double dose oral medication for 24 hours. Then return to normal dose
Dental surgery <i>eg. root canal work with local anaesthetic</i>	Double dose (<i>up to 20mg hydrocortisone</i>) one hour prior to surgery.	Double dose oral medication for 24 hours. Then return to normal dose
Minor dental procedure <i>eg. replace filling</i>	Not usually required.	An extra dose only where hypoadrenal symptoms occur afterwards.

GENERAL NOTES

1. For any nil-by-mouth regimen, please arrange an intravenous saline infusion to prevent dehydration and maintain mineralocorticoid stability. eg. 1000ml every 8 hours if $\leq 50\text{kg}$

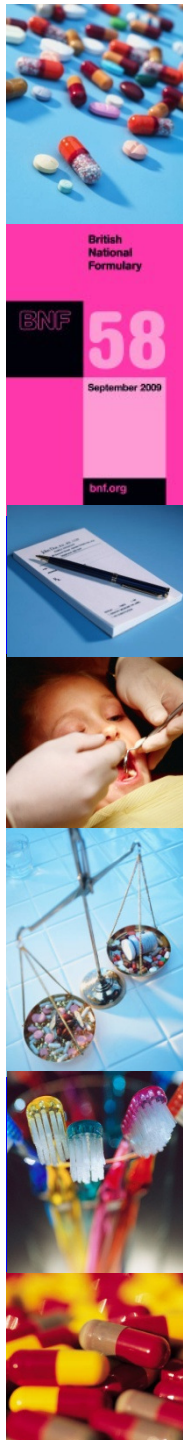
The Addison's Disease Self-Help Group works to support people with adrenal failure and promote better medical understanding of this rare condition.

Registered charity 1106791
www.addisons.org.uk

www.addisons.org.uk

UKMi
 UK Medicines Information

Patients with Addison's Disease



Type of procedure

Pre-operative and operative needs

Post-operative needs

Major dental surgery
eg. dental extraction
with general anaesthetic

100mg hydrocortisone i/m
just before anaesthesia.

Double dose oral medication
for 24 hours. Then return
to normal dose

Dental surgery
eg. root canal work
with local anaesthetic

Double dose (up to 20mg
hydrocortisone) one hour
prior to surgery.

Double dose oral medication
for 24 hours. Then return
to normal dose

Minor dental procedure
eg. replace filling

Not usually required.

An extra dose only where
hypoadrenal symptoms
occur afterwards.