

**Directorate of Operations  
Clinical Support Services –  
Diagnostic Services – Pharmacy**

# **ANTIMICROBIALS PRESCRIBING STRATEGY**

Reference:	DCM021
Version:	2.0
This version issued:	25/04/16
Result of last review:	Major changes
Date approved by owner (if applicable):	20/04/16
Date approved:	18/04/16
Approving body:	Infection Prevention and Control Committee
Date for review:	April, 2019
Owner:	Andrew Karvot, Consultant Pharmacist, Antimicrobials
Document type:	Miscellaneous
Number of pages:	14 (including front sheet)
Author / Contact:	Andrew Karvot, Consultant Pharmacist, Antimicrobials

Northern Lincolnshire and Goole NHS Foundation Trust actively seeks to promote equality of opportunity. The Trust seeks to ensure that no employee, service user, or member of the public is unlawfully discriminated against for any reason, including the “protected characteristics” as defined in the Equality Act 2010. These principles will be expected to be upheld by all who act on behalf of the Trust, with respect to all aspects of Equality.

## Contents

<b>Section</b> .....	<b>Page</b>
1.0 Purpose .....	3
2.0 Area .....	3
3.0 Background .....	3
4.0 Aim .....	4
5.0 Actions.....	4
6.0 Associated documents .....	10
7.0 Bibliography.....	10
8.0 Consultation .....	11
9.0 Implementation .....	11
10.0 Document History .....	11
11.0 Equality Act (2010) .....	12
Appendix A - Start Smart then Focus Guidance for Antimicrobial Stewardship in Hospitals / Antimicrobial Stewardship Treatment Algorithm.....	13

## 1.0 Purpose

This document defines the Trust's strategy to ensure that the occurrence of healthcare-associated infections and selection of resistant organisms is minimised Trust-wide, by working within national guidelines and codes of practice to achieve good antimicrobial stewardship, through local action.

## 2.0 Area

This policy applies to all areas of the Trust.

## 3.0 Background

**3.1** Increasingly stringent, DH-set targets for Trusts for healthcare-associated infections (HCAIs) and developing resistance of micro-organisms indicates that there is a clear need to optimise the use of antimicrobial agents within Northern Lincolnshire and Goole NHS Foundation Trust.

**3.2** As shown by antimicrobials prescription audits against our Path Links Antibiotic Formulary and Prescribing Advice for Adult Patients prescribing standards, a high percentage of antimicrobials prescriptions do not meet these standards, creating an increased potential for:

- Antibiotic-associated healthcare-acquired infections; e.g. Clostridium difficile infection and MRSA bacteraemias, resulting in:
  - Breach of national and local commissioners' targets, with severe financial penalties
- Colonisation with resistant strains of bacteria, which results in:
  - Higher morbidity and mortality
  - Increased length of hospital stay
  - More difficulty in treating infections
  - Adverse effects to antimicrobials

**3.3** The Code of Practice on the prevention and control of infections (Health and Social Care Act 2008) requires registered healthcare providers to have and adhere to policies that will help to prevent and control infections.

**3.4** This strategy aims to ensure the optimum use of antimicrobials, particularly to minimise the risk of causing healthcare-associated infections (HCAIs) and minimising antimicrobial related adverse effects and the development of antimicrobial resistance, whilst maximising their cost effectiveness and clinical therapeutic effectiveness.

#### 4.0 Aim

This strategy intends to:

- Address areas of sub-optimal antimicrobials prescribing within the Trust, to optimise the management of primary infections, whilst minimising the incidence of HCAs and the development of resistant organisms

#### 5.0 Actions

5.1 The aims of the strategy will be achieved as described in this section.

#### 5.2 Improved monitoring of and intervention with antimicrobials prescribing

5.2.1 Pharmacy staff will clinically check antibiotics prescriptions to see if they comply with Path Links Antibiotic Formulary and Prescribing Advice prescribing standards for antibiotics, make sure that choice and usage are clinically appropriate before signing and dating scripts and clinically intervene as necessary, recording any interventions on the Pharmacy Department interventions database.

5.2.2 Prescriptions must include; the name of the antibiotic, the clinical indication, a duration or review-date, dose, route, times of administration and suitable identification of the prescriber (name in capitals and bleep number) under his/her signature. For antimicrobials with use restricted to microbiologist authorisation only, the code given by the authorising microbiologist must be included in the 'additional instructions' box of the order.

5.2.3 For those prescriptions which do not comply with Path Links Antibiotic Formulary and Prescribing Advice antibiotics prescribing standards, a pharmacist will speak to the prescriber to highlight the deficiencies and provide advice for change and will make a record of these conversations on the Pharmacy Department interventions database.

5.2.4 If a prescriber's antibiotics prescribing continues to deviate from Path Links standards, action will be escalated as follows:

- The clinical ward pharmacist will inform the Consultant Pharmacist, Antimicrobials of who the deviant prescriber is and the Consultant Pharmacist, Antimicrobials will speak to the prescriber about the lapses in practice. If the prescriber does not rectify his/her lapses, the Consultant Pharmacist, Antimicrobials will escalate through the following tiers:
  - The junior's consultant
  - The Clinical Lead for the appropriate Clinical Group
  - The Associate Medical Director for the appropriate Clinical Group
  - The Director of Infection Prevention and Control (DIPC) and the Medical Director
  - Will submit a Datix incident report if the deviation is significant enough
  - To ensure that Path Links standards for antibiotics prescribing are upheld

**5.2.5** Community nurse prescribing (NMPs) will be monitored via ePACT data and monitored against the Guidance on the Treatment and Management of Infection in Primary Care (Antimicrobial Prescribing) by the NLaG Community Services Pharmacist. Deviations in antimicrobials prescribing will be fed back to prescribers. The NLaG Community Services Pharmacist will liaise with the Consultant Pharmacist, Antimicrobials, regarding any deviations.

**5.3 Assessment of the influence of antibiotics on the root-cause of healthcare acquired infections, particularly *Clostridium difficile***

**5.3.1** By assessing the influence of antibiotics on the outcome of each case and recording in each HCAI root-cause analysis summary whether:

- Antibiotics were not implicated as a cause
- Antibiotics were implicated but prescribing was appropriate
- Antibiotics were implicated and prescribing was inappropriate for the primary infection treated

**5.3.2** Analysis will show the true impact of antibiotics as a cause of HCAs, being recorded as “lapses in care.”

**5.4 Maintenance and development of the Path Links Antibiotic Formulary and Prescribing Advice documents for adult and paediatric patients**

Achieved by the Lincolnshire-wide, Path Links Antibiotic Formulary and Prescribing Advice Committee of microbiologists and antimicrobials pharmacists and will provide:

- Appropriate, empirical antibiotics regimens for the treatment of infections and recommended and appropriate antibiotic prophylaxis
- Control of entry of new antimicrobials to the Trust formulary, in conjunction with each Trust’s Medicines and Therapeutics Committee and Area Prescribing Committee (APC)
- Standards for antimicrobials prescribing
- Details of required therapeutic drug monitoring for narrow therapeutic index antibiotics
- Expectations for de-escalation of IV antibiotic therapy to oral and suggested optimum course lengths
- Information on assessing and dealing with allergy to antimicrobials
- Provision of summary information on treatment choices for key infections
- Appropriate advice to achieve compliance with the Department of Health Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection’s Start Smart then Focus guidelines

- A compact summary of the Path Links Antibiotic Formulary and Prescribing Advice will be incorporated into the IGNAZ smart-phone app to give ensure easy access to it by prescribers

## **5.5 Compliance with Criterion 3 of the Code of Practice on the prevention and control of infections (Health and Social Care Act 2008) and NICE NG15 – Antimicrobials Stewardship**

**5.5.1** Through establishment and continuation of the NLAG “Hygiene Code Task-and-Finish Group” to ensure compliance with Criterion 3 (Antimicrobials).

**5.5.2** By establishment, through gap analysis, of an action plan incorporating any required actions from NICE NG15, the Hygiene Code Task-and-Finish Group and this strategy and completion of these within specified timescales.

**5.5.3** To establish an antimicrobials stewardship framework within the Trust, to promote key messages on antimicrobials stewardship and reinforce/repeat these messages through the actions below, to establish a culture of prudent antibiotics use within NLAG.

## **5.6 Maintenance and development of the NLAG Antimicrobials Steering Group**

**5.6.1** The Antimicrobials Steering Group, a sub-committee of the Infection Prevention and Control Committee, has been subsumed into the Medicines and Therapeutics Committee.

### **5.6.2 Core Membership includes:**

- Clinical Chairperson (Consultant Medical Practitioner)
- Chief Pharmacist & Clinical Lead for Medicines Management or nominated deputy
- Representatives of clinical areas nominated by the relevant Associate Medical Director (AMD). Each AMD may make as many nominations as they feel is appropriate for their area of responsibility
- Director of Infection Prevention and Control (DIPC) Medical Director or nominated representative
- Nurse – to be nominated by the Chief Nurse
- Trust Lead Medicines Information Pharmacist
- Lead Pharmacist Medication Safety & Procurement
- Medicines/Individual Funding Request (IFR) Manager
- Area Prescribing Committee Professional Secretary
- A General Manager nominated by the Chief Operating Officer
- Consultant Pharmacist, Antimicrobials
- Clinical Director of Microbiology or his/her nominated representative

**5.6.3** The Group will meet monthly (as per the Medicines and Therapeutics Committee) and has a specific section of the M&T agenda dedicated to antimicrobials issues.

**5.6.4** The Consultant Pharmacist, Antimicrobials, in conjunction with the Director of Infection Prevention and Control, will ensure that the agenda covers the required business of the Antimicrobials Steering Group.

**5.6.5** Any significant issues judged to require escalation to the NLAG Trust Board will do so by being referred to the Infection Prevention and Control Committee.

**5.6.6** Through review of its Terms of Reference, the group will ensure that the recommendations of the DH Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection's Start Smart then Focus are met by the Trust, to:

- Ensure practical implementation of the Path Links Antibiotic Formularies and Prescribing Advice for Adults and Children
- Review issues relating to antimicrobial stewardship and non-compliance with local guidelines, including the review of incident reports relating to antimicrobials and identify actions to address these, after liaison with the Trust's Safer Medication Group, if necessary
- Consider point prevalence reports of compliance with the Trust's antimicrobials prescribing standards, conducted when a health care acquired infection occurs, to identify and feedback any issues with compliance
- Ensure regular auditing of the guidelines, antimicrobial stewardship practice and quality assurance measures
- Conduct a regular review of NLAG's antibiotic consumption data, including community services non-medical prescribing, in order to identify and implement appropriate corrective actions and include these in its reports
- Serve as a conduit for communication both ways between the Path Links Antibiotic Formularies Group and the users of antimicrobials
- Communicate with the Trust's Primary Care partners and commissioners about antimicrobials issues, via the Trust's Medicines and Therapeutics Committee and the Area Prescribing Committee

## **5.7 Electronic Prescribing**

Integrate best practice in antimicrobials prescribing into NLAG's electronic prescribing system, through consultation with the Trust's antimicrobials team, the Pharmacy Department and the Web V Project Team developing the e-prescribing system.

## **5.8 Risk Assessment**

**5.8.1** A case for an allergy testing service for penicillins and latex will be developed.

**5.8.2** The Path Links Antibiotic Formulary and Prescribing Advice will be harmonious with the Trust's general policy for the administration of intravenous medicines.

**5.8.3** The safety of antimicrobials will be linked to incident reporting, with feedback and action plans.

**5.8.4** Incident reports involving antimicrobials usage will be discussed by the Antimicrobials Steering Group, as necessary, after liaison with the Trust's Safer Medication Group.

## **5.9 Management of Sepsis**

**5.9.1** Will be addressed by the Sepsis Mortality Group.

**5.9.2** The Sepsis Mortality Group will formulate policy and guidance on the management of sepsis within NLAG, in conjunction with the Infection Prevention and Control Committee and Antimicrobials Steering Group.

**5.9.3** The group will be led by the NALG Consultant Lead for the Management of Sepsis and the Consultant Nurse for the Deteriorating Patient.

## **5.10 Education and Training**

Ensure that a robust, antimicrobial education and training strategy is in place for all relevant Trust staffs at an appropriate level:

- All antimicrobials prescribers should receive education on key points about antimicrobials prescribing at induction
- All pharmacists should receive education on key points about antimicrobials prescribing at induction
- All nurses/staffs involved in the preparation and administration of antimicrobials should receive training in the safe and optimal use of antimicrobials
- All antimicrobials prescribers should receive a minimum three-yearly update in safe and effective antimicrobials prescribing
- All pharmacists should receive a minimum three-yearly update in safe and effective antimicrobials prescribing
- All nurses/staffs involved in the preparation and administration of antimicrobials should receive a minimum three-yearly update in the safe and optimal use of antimicrobials
- All other relevant Trust staffs should receive Level 1 antimicrobials mandatory training on a three-yearly basis
- All antimicrobials prescribers should receive annual competency assessment/revalidation for antimicrobials prescribing
- Education and advice will be provided on multidisciplinary, antimicrobials ward-rounds, as resources will allow

## 5.11 Patients and Carers

### 5.11.1 Patients receiving an antimicrobial during their hospital stay, or their legal guardian:

- Should be informed of this and the reason why
- Should be informed of the risks and side effects associated with this treatment

### 5.11.2 Patients discharged on an antimicrobial, or their legal guardian:

- Should be informed of this and the reason why
- Should be informed of the course-length and importance of finishing the course
- Should be informed of the risks and side effects associated with antimicrobials and what to do if side effects develop at home

### 5.11.3 Information regarding the above will be additionally delivered by the issue of the appropriate leaflet; "Antibiotics Information for patients and carers."

## 5.12 Monitoring and Compliance with the Strategy and Antimicrobials Guidance

### 5.12.1 The Trust's Antimicrobials Steering Group will ensure that the prescribing of antimicrobials is monitored. This monitoring will take the form of:

- Regular audits (minimum of annually; more frequently if with specific agreement and available resource) of antimicrobials prescribing practice (where these are part of the Trust's agreed priority programme of work); in conjunction with Quality and Audit Department staff, individual clinicians, clinical teams, pharmacy staffs, at directorate and institutional levels, against the recommendations contained in the Path Links Antibiotic Formulary and Prescribing Advice. Audits will take place according to a defined time-table and definitions of content and will include audits of:
  - Compliance with Path Links Antibiotic Formulary and Prescribing Advice prescribing standards, including rules relating to the prescribing of restricted antimicrobials and clinical appropriateness of antibiotics use
  - Adherence to surgical prophylaxis guidelines
  - Adherence to IV to oral switch guidance, per speciality
  - Adherence to dosing and therapeutic drug monitoring guidelines for antibiotics with a narrow therapeutic index
  - Reporting of the usage of antimicrobials using the World Health Organisation definitions of Defined Daily Doses (DDDs) expressed as DDDs/1000 bed days quarterly and in the Infection Control Team annual report to the Trust Board

**5.12.2** The outcome of the above audits and usage reports will be reported to the Antimicrobials Steering Group, the Infection Prevention and Control Committee and the appropriate Clinical Groups and sub-teams for information and action.

**5.12.3** The results of selected audits will be displayed on an appropriate page of the Trust's intranet.

## **6.0 Associated documents**

This strategy should be read in conjunction with:

- The NLAG Antimicrobials Action Plan 2016-2017
- The Path Links Antibiotic Formulary and Prescribing Advice for Adults and Children (current version)
- The Trust's Infection Prevention and Control Strategy 2016-19 and associated work-plan
- The Antimicrobials Steering Group's Terms of Reference
- The Trust's Medicines Code

## **7.0 Bibliography**

**7.1** Antimicrobial Stewardship – Start Smart then Focus, Guidance for antimicrobial stewardship in hospitals (England), Department of Health Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection, March 2015.

**7.2** Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use NG15 (2015); <http://www.nice.org.uk/guidance/ng15>

**7.3** Clostridium difficile infection: risk with broad-spectrum antibiotics (2015); <https://www.nice.org.uk/advice/esmpb1>

**7.4** Cooke J. Alexander K. Charani E et al. Antimicrobial stewardship: an evidence-based, antimicrobial self-assessment toolkit (ASAT) for acute hospitals. J Antimicrob Chemother. 2010; 65(12): 2669-73.

**7.5** The Health and Social Care Act 2008 Code of Practice on the prevention and control of infections and related guidance, Department of Health, 2015.

**7.6** UK Five Year Antimicrobial Resistance Strategy 2013 to 2018; (2013) <https://www.gov.uk/government/publications/uk-5-year-antimicrobial-resistance-strategy-2013-to-2018>

## 8.0 Consultation

Consultation List:

- Trust Chief Executive
- Trust Chief Pharmacist and Lead for Medicines Management
- Director of Infection Prevention and Control
- Medical Director
- Trust's Risk Manager
- Infection Prevention and Control Committee
- Trust Medicines and Therapeutics Committee, including Antimicrobials Steering Group
- Trust Governance & Assurance Committee

## 9.0 Implementation

- 9.1 The strategy will apply its key objectives to create a short-term action plan to achieve optimal prescribing of antimicrobials within NLAG.
- 9.2 The strategy, action plan and Antimicrobials Steering Group amended Terms of Reference will be ratified and monitored by the Infection Prevention and Control Committee.

## 10.0 Document History

The document has had 3 reviews of version 1, from 2013 to 2015, before version 2 being produced.

**11.0 Equality Act (2010)**

- 11.1** In accordance with the Equality Act (2010), the Trust will make reasonable adjustments to the workplace so that an employee with a disability, as covered under the Act, should not be at any substantial disadvantage. The Trust will endeavour to develop an environment within which individuals feel able to disclose any disability or condition which may have a long term and substantial effect on their ability to carry out their normal day to day activities.
- 11.2** The Trust will wherever practical make adjustments as deemed reasonable in light of an employee's specific circumstances and the Trust's available resources paying particular attention to the Disability Discrimination requirements and the Equality Act (2010).

---

**The electronic master copy of this document is held by Document Control,  
Directorate of Performance Assurance, NL&G NHS Foundation Trust.**

## Appendix A

### Start Smart then Focus Guidance for Antimicrobial Stewardship in Hospitals

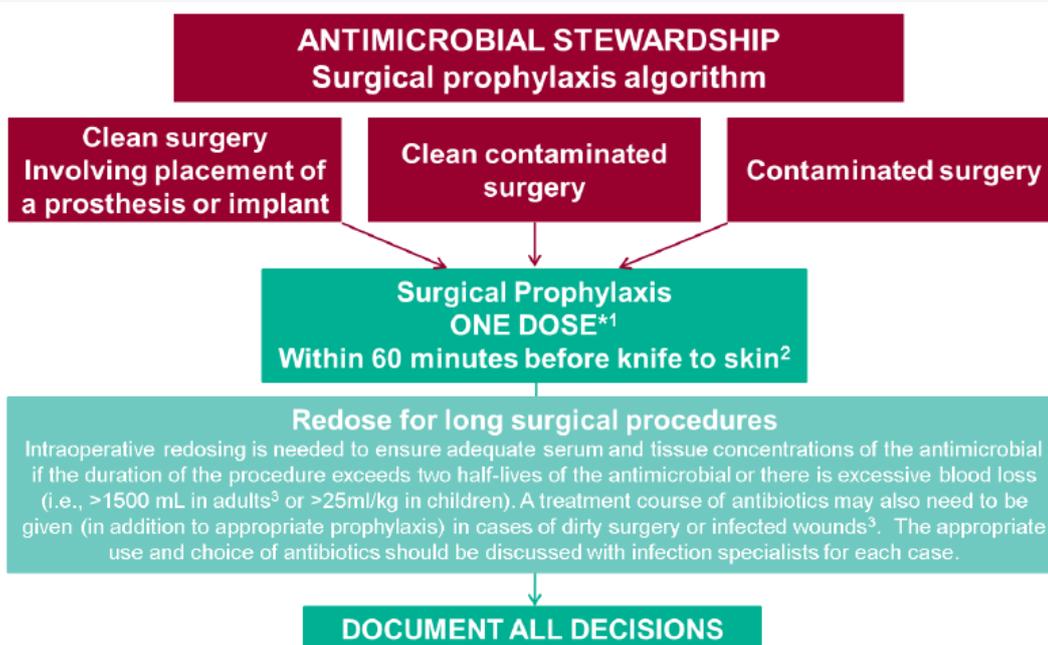
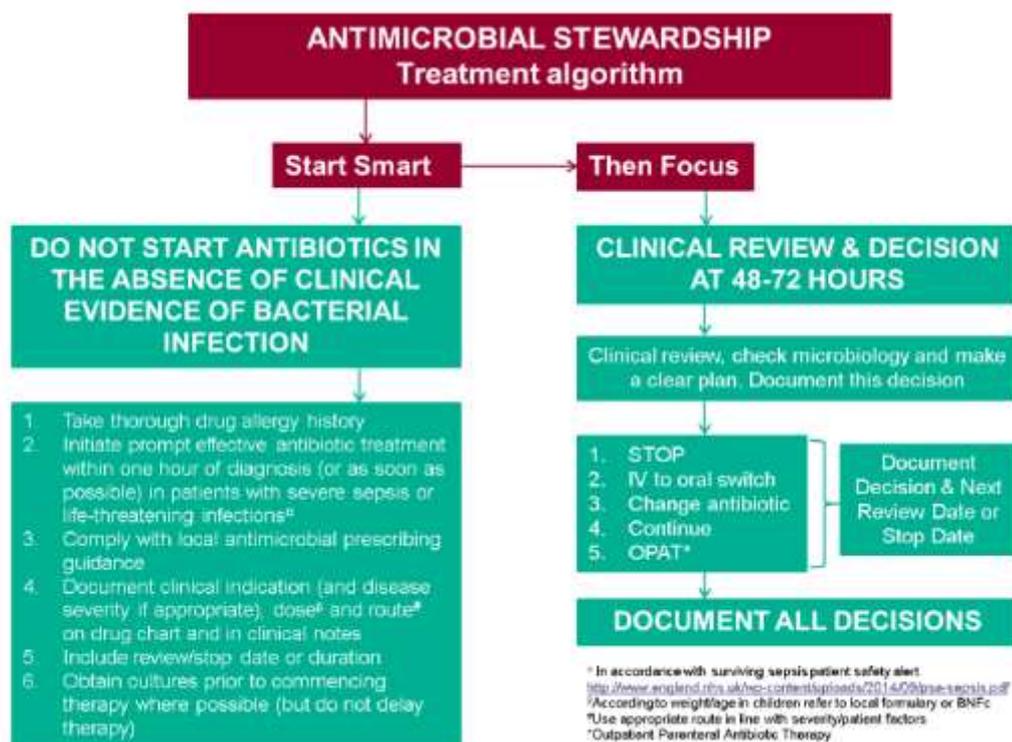
#### Start Smart...

1. Don't start antibiotics in the absence of clinical evidence of bacterial infection.
2. If there is evidence/suspicion of bacterial infection, obtain appropriate microbiological specimens for culture, before using Path Links guidance to choose prompt, effective antibiotic treatment.
3. Document on each antibiotic prescription (and in medical notes); clinical indication, duration or review date, route and dose, as well as suitable identification of the prescriber (bleep number or name in capitals) in addition to a signature.
4. Additionally, for antimicrobials restricted to microbiologist authorisation only, write the name of the authorising microbiologist in the additional instructions box on the prescription, in addition to documenting in the patient's medical notes.
5. Prescribe single dose antibiotics for surgical prophylaxis; where antibiotics have been shown to be effective (see Path Links guidance).

#### ... then Focus

1. Review the clinical diagnosis and the continuing need for antibiotics within 48 – 72 hours and make a clear plan of action - the "Antimicrobial Prescribing Decision."
2. Choose one option from five possible choices of what to do at this review:
  - a. Completely stop antibiotics;
  - b. Switch IV to Oral;
  - c. Change from empirical, broad-spectrum antibiotics to a narrow-spectrum agent, using culture and sensitivity results as a guide;
  - d. Continue the same antibiotics and route, but review again in a further 24 hours;
  - e. Use an Out-patient Antibiotics Therapy service (if available).
3. It is *essential* that the review and subsequent antimicrobial prescribing decision is clearly documented in the medical notes.

The figures overleaf demonstrate these principles within Start Smart then Focus.



## References:

1. NICE clinical guideline 74: Surgical site infection – Prevention and treatment of surgical site infection  
<http://www.nice.org.uk/Guidance/CG74>
2. World alliance for Patient Safety. WHO surgical safety checklist June 2008  
[http://www.who.int/patientsafety/safesurgery/tools\\_resources/SSSI\\_Checklist\\_finaJun08.pdf?ua=1](http://www.who.int/patientsafety/safesurgery/tools_resources/SSSI_Checklist_finaJun08.pdf?ua=1)
3. Bratzler DW, Dellinger EP, Olsen KM et al. (2013). Clinical practice guidelines for antimicrobial prophylaxis in surgery. Am J Health Syst Pharm 2013; 70(3): 195-283