GUIDE TO SURGICAL SITE MARKING

HIGH 5s
“Performance of Correct Procedure at Correct Body Site: Correct Site Surgery”

ENGLISH EDITION
Of OCTOBER 2012
This guide to marking forms part of the international High 5s project. High 5s was initiated by the WHO in 2007 to improve the safety of healthcare in relation to some of the major patient safety problems, and in particular by preventing wrong site and wrong procedure surgery.

Marking the surgical site appears to be a key step in the prevention of site errors; it is one of the three elements of standard operating protocol* “Preventing wrong site, wrong procedure surgery”. The two other key steps are preoperative checks* and the checks during the time out (the pause before the incision)*. **Marking on its own is not a prevention strategy and does not replace the need for preoperative and time-out checks.**

Every surgical team that wishes to institute marking can make use of the basic principles of marking presented in this guide.

A two-page “Quick reference surgical site marking» is also available. Contact: contact@cepral-sante.fr

* All words followed by “*” are listed in the glossary on p. 22.
Alas! How easily things go wrong!” wrote George Macdonald in Phantasies. Indeed, no surgeon means to operate on the wrong patient or the wrong side of the body or to remove the wrong organ or perform the wrong procedure. But it happens. The best available evidence puts the number of wrong-site surgery cases at 1-2 per 100,000 procedures—a disturbingly high number for an event that most agree should never happen. Clearly, competence and good intention on the part of the surgeon are not sufficient to prevent these occurrences. As with most undesirable consequences, prevention requires an active effort, not just by the surgeon, but by the entire surgical team, functioning within operative and perioperative processes that have been carefully designed to prevent such events.

The Correct Site Surgery Standard Operating Protocol (SOP), which is being implemented in select hospitals internationally as part of the WHO’s High 5s: Action on Patient Safety initiative, focuses on standardizing the preoperative processes for the purpose of reducing the risk of wrong site surgery. Based on over 15 years of research on the incidence, causes and solutions for this vexing problem, it establishes procedural requirements for three components of the process for preparing patients for surgery: the preoperative verification check list; surgical site marking; and the final “time-out” verification. Of the three components, the one that has proven most difficult to standardize is the site marking process.

The SOP provides guidance on what to do with respect to site marking (as well as the other preoperative processes). This Guide Marquage provides the detailed information on how to do it, which hospitals will need to effectively implement the SOP. In the pages that follow, you will find specific instruction on the timing, location, method and other aspects of site marking, and additional detail on how to handle site marking in certain special situations. Particular attention is paid to the role of the patient and family in the process and the overall approach is that of a team activity. The instructions are further enhanced with specific examples of correct and incorrect site marking, complete with photographs of real patients.

The guidance provided here is entirely consistent with the requirements of the High 5s SOP as well as the Universal Protocol and the WHO’s Safe Surgery Checklist. Applicable French law is cited and, in the final pages, answers are provided to the most frequently asked questions about surgical site marking. A valuable reference, indeed; this is must reading for surgeons, surgical nurses and technicians, and any others who participate in the process of preparing patients for surgery.

Dr Rick Croteau,
Joint Commission International
Preface

Guide to surgical site marking

The Haute Autorité de Santé is heavily involved in promoting changes in safety practices and culture within organisations, in connection with physician certification and accreditation procedures. The HAS “surgical safety” checklist has thus become a priority practice integrated into the certification procedure for healthcare organisations since 2010 and has now been deployed across all operating rooms.

The Haute Autorité de Santé, in partnership with CEPPRAL (Coordination pour l’Evaluation des Pratiques Professionnelles en santé en Rhône-Alpes), has been involved in the WHO High 5s “Action on Patient Safety” project since 2009. The prevention of wrong site and wrong procedure errors in surgery is a “Standard Operating Protocol”, a standardised organisational solution or practice implemented and evaluated by around fifty hospitals worldwide, including nine French health care organisations. Safeguards are incorporated into the pathway followed by the inpatient prior to surgery via the standardisation of the presurgical check, surgical site marking and “time out” steps, documented in the form of a High 5s checklist which incorporates the HAS checklist.

The implementation of marking by the French teams raised organisational and technical questions as well as problems of a cultural and ethical nature and relating to medico-legal liability. This challenging practice applied in around ten areas of specialisation convinced the professionals involved in the project. After two years of implementation and evaluation, and mid-way through the High 5s project, 20,000 patients have benefited from surgical marking in France with a high level of compliance with the marking procedure and excellent acceptance by patients.

Marking is potentially a key factor in the development of practices and in improving patient safety if viewed in the light of the 4 million surgical procedures performed each year in France. This practice is set to grow in the presurgical period for both inpatients and outpatients. It will be supported by the V2014 certification of organisations through the recognition of outstanding practices.

This High 5s guide to surgical marking, produced by CEPPRAL and HAS in cooperation with healthcare organisations, has benefited from the expert opinion of the Joint Commission International. It is a major contribution towards the incorporation of good marking practice into the routine activity of the teams involved in surgical patient management as opposed to just those teams involved in High 5s.

Pr Jean-Luc Harousseau,
Chairman of the Board
Haute Autorité de Santé
Summary

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High 5s was initiated by the WHO in 2007 to improve the safety of healthcare in relation to some of the major patient safety problems. The Haute Autorité de Santé, with the support of the Ministry of Health, committed itself in 2009 to “Preventing wrong site, wrong procedure surgery” and “Assuring medication accuracy at transition of care” and to providing the coordination for France.

A lack of preventive strategies during the pre-operative period is the most common causes of wrong site surgery. Surgical site marking is one of the critical control points contributing to safe surgery and a key step in the prevention of wrong site surgery. It is one of the components of the High5s standardised solution: “Performance of Correct Procedure at Correct Body Site: Correct Site Surgery".

This solution was implemented by many hospitals in France in collaboration with CEPPRAL for the 5 years of the project within the framework of their participation in the international collaborative project “High 5s: Action on Patient Safety”.

Marking the surgical site has confronted the teams at the hospitals with difficulties with implementation that have led to them reviewing their previous marking practice (when this was done).

The objective of this marking guide, created by CEPPRAL and HAS, with the support of the Joint Commission and in collaboration with the hospitals, is to assist hospitals in the implementation of the marking procedure according to the requirements of High 5s and to respond to their questions, in particular with respect to medico-legal responsibility.

It is also a tool for medico-surgical and nursing team professionals who wish to improve and harmonise their marking practices.

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**THE FIELD OF APPLICATION OF THE HIGH 5S OPERATING PROTOCOL**

The High 5s operating protocol applies to all procedures carried out in the surgical unit of the hospital with the exception of those carried out in outpatient facilities.

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**MARKING THE SURGICAL SITE: A KEY STEP IN THE PREVENTION OF WRONG SITE SURGERY**

A lack of preventive strategies during the pre-operative period is the most common cause of wrong site surgery.

In the Netherlands, de Vries et al reported, on the basis of insurance data, that there were 294 complaints between 2004 and 2005. Wrong person, site or side errors were ranked 3rd, representing 16% of complaints (34 cases). In 12% of cases, the main contributing factor was the lack of or incorrect use of a marking procedure. Three quarters of these errors could have been prevented by the appropriate application of a marking procedure. In France, SHAM, which insures 80% of public health care organisations and 25% of private hospitals, puts between 2007 and 2010 the number of “confirmed” wrong side, site or person errors at 16 per year.

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2 Except endoscopy and catheterisation rooms, labour wards and wards essentially dedicated to outpatient treatment.
2 MARKING PROCEDURE

2.1 INVOLVEMENT OF PATIENT AND FAMILY

The surgeon is responsible for discussing marking with the patient and has the duty of informing the patient of the benefits of marking which helps to make surgery safe.

Participation of the patient and his/her family help to reinforce the effectiveness of the marking process and should be encouraged.

| INFORMATION PROVIDED VERBALLY BY THE SURGEON, WRITTEN INFORMATION ON THE CHECKLIST HANDED TO THE PATIENT |
| The hospitals chose to explain the purpose and importance of the checklist to the patient in a consultation setting. The checklist is kept by the hospitals in the patient’s medical file. |
| One hospital chose to involve the patient by designating him/her as the checklist holder and asking him/her to bring the checklist along to all pre-operative consultations* and on the day of admission for the operation. Written patient information was provided on the first page of the checklist. |

The patient must also be informed that the marking should remain visible despite the pre-operative shower.

The patient
Apart from where this is not possible because of the patient’s condition (e.g. confused patient, etc.), marking should be carried out with the active involvement of the patient, who should be awake and conscious.

Children
The parents of children should be involved in the marking process.

Adults with disabilities or who are unable to communicate
Family members should be given the opportunity to be involved in the marking process.

The patient may refuse marking, but cases of refusal are rare.

Since January 2011, no patient (out of 8,547 checklists initiated\(^1\)) has refused marking.

Nevertheless, a procedure must be compiled for cases where a patient refuses marking.

\(^1\)In the date of December 2nd, 2011
When to mark?

Marking is carried out before patient transfer to theatre and ideally before sedative pre-medication on a patient who is awake and conscious.

How to mark?

Marking is carried out after all the available information concerning the patient’s identity, the procedure and the surgical site/intended side (provided by the patient, medical file, notes, imaging, consent, etc.) has been checked and cross-referenced.

Who marks?

The site should preferably be marked by the surgeon who will be performing the operation.

The person who marks the site is identified in the medical file (preferably in the pre-operative verification checklist*).

Delegation to a doctor or nurse is possible if this person is involved in the operation or is directly involved in the patient preparation process.

The organisation must specify the minimum qualifications (for example: doctor, charge nurse) and the role (patient preparation or participation in the surgical procedure) of the person to whom responsibility for marking may be delegated.

A doctor who, in isolation, delegated certain activities for which he/she alone is legally responsible to a paramedical professional would be criminally liable.

And if the patient refuses marking?

The patient always has the right to refuse. This situation should be handled the same way as for any other refusal by a patient offered care, treatment or services. The organization's responsibility is to provide the patient with information to understand why site marking is appropriate and desirable, and the implications of refusing the site marking. Then the patient can make an informed decision. The SOP does not require that the procedure be cancelled because the patient refuses site marking. The preoperative verification check list has a place to document this situation. Organization policy should describe the related procedural and other documentation requirements.

Roles and responsibilities of health professionals in the application, maintenance and monitoring of the marking procedure

Management: The management of the organisation is responsible for ensuring that a marking procedure, included in the pre-operative verification process, is in place in the organisation.

Heads of discipline: The heads of each discipline are responsible for ensuring that the surgeons in their discipline mark their patients in accordance with the procedure in force within their organisation.
**Surgeon:** The surgeon (or the person delegated to carry out marking) is responsible for marking the surgical site on his/her patient’s body prior to any intervention and to carry out the marking in accordance with the procedure in force within their organisation.

If the patient refuses marking, the surgeon must apply the procedures in force within the organisation for these situations.

**Checklist coordinator in time out:** The checklist coordinator is responsible for ensuring that each patient has been marked before transfer to theatre.

**Theatre team:** The team present in the operating room is responsible for conducting final time out and for ensuring that the correct surgical site has been marked before the start of the intervention.

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### CHARACTERISTICS OF CORRECT MARKING

The purpose of marking is to identify clearly the site of incision or insertion.

Marking is carried out at the intended site of the incision or as near as possible to the intended site. Unless clinically necessary, no other point should be marked besides the surgical site.

The mark must not be ambiguous. Crosses may not be used because they might be interpreted as “do not operate here”.

In general terms, the type of mark is determined specifically in accordance with the wishes of each organisation on the basis of a formalised and harmonised marking procedure (same marking symbol for all professionals and all surgical disciplines).

This may be the initials of the surgeon, for example, or a line representing the intended incision:

![Fig. 1: Examples of marking](image)

The mark must be made with a skin marker that is sufficiently permanent to remain visible after preparation of the patient (skin preparation and application of theatre drapes).

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**Which sites to mark?**

Surgical site marking applies, as a minimum, to all cases of incision or percutaneous intervention involving **laterality** (i.e. a single limb or one of a pair of organs), **multiple structures or surfaces** (flexor/extensor, lesions, fingers, toes) or **levels** (spine, vertebra).

An organisation may decide to mark all patients to prevent wrong person, wrong site errors.

The simple visceral organs (uterus, intestine, stomach, heart, bladder, appendix etc.) are not marked.
2.3 Exceptions to marking

In certain situations, described below, marking must not be carried out for technical or anatomical reasons.

An alternative method may be used to identify the correct site visually. For example, a unique temporary bracelet may be placed on the side where the intervention is to be carried out.

The bracelet must indicate the patient’s name, provide a second identifier, and indicate the intended procedure and the site. The use of a bracelet on its own is not recommended as the first line method because of the risk of loss and errors in repositioning.

Life-threatening emergencies

Life-threatening emergencies in which the time required for marking creates an additional risk to the patient are exempt from marking. The risks and benefits must be assessed by the surgeon who decides whether or not to mark his/her patient.

Premature infants

Marking may cause a permanent tattoo. An alternative method may be used.

Dental surgery

Because there is no practical or reliable method for directly marking a tooth for intended extraction, dental surgery is exempt from surgical site marking. As this type of surgery involves “multiple structures”, however, an alternative method must be used:

- Review of the dental records, the medical history, laboratory tests, dental charts and x-rays. The number(s) of the teeth involved in the operation must be indicated or the surgical site marked on the chart or x-ray to be incorporated into the patient’s medical file.

- Verification that x-rays are oriented correctly and visual identification of the correct teeth or tissues

Simultaneous bilateral surgery

Opinions differ on the subject. Some people prefer to mark both eyes because, in the absence of any marking, there is a risk of both eyes being operated on when only one was intended.

Endoscopy

All purely endoscopic procedures without a planned invasive intervention are exempt from marking. Sites for which the access point is not predetermined, as in cardiac catheterisation and other minimally invasive procedures, are considered exempt.

Wounds or lesions

Site marking is not required in the case of obvious wounds or lesions if this wound or lesion is the site of the intended procedure. However, if there are multiple wounds but only some of them must be treated, these sites must then be marked.

Cases in which the laterality must be confirmed after examination under anaesthesia or investigation.
Spinal surgery

Marking is usually carried out in two stages. First, the general area/level of the spine (cervical, thoracic or lumbar) must be marked on the skin before the operation. Then, special intra-operative radiographic techniques are used to mark the exact level of the spine.

Laparoscopy/minimally invasive surgical procedures

For the intended treatment of a lateralised internal organ, whether via a percutaneous approach or a natural orifice, the mark must be made at or near the insertion site with an arrow indicating the side to be reached.

Treatment of the breast in cases of lumpectomy

An alternative to marking with a marker has been accepted by the Joint Commission: Non-palpable masses are marked using ultrasound guidance in Radiology. A metal marker attached to a wire is inserted up to the location of the tumour. The wire is clearly visible and attached to the skin with an adhesive dressing. This is the standard method widely used by surgeons in the United States.

One hospital has incorporated a supplementary control, in addition to harpoon marking, into its procedure in the form of site marking with an arrow in the department.

Ophthalmology

Betadine® may be used as a means of marking instead of a marker. For dark skins, an alternative is proposed in the form of adhesive tape applied to the eyelid on the side of the intended procedure in addition to the fitting of a wrist band on the side of the intended procedure on which the following should be specified: Surname, first name, date of birth of the patient, intended procedure, surgical site and side. Adhesive tape alone or wrist bands alone must not be used as a means of site marking.

ENT surgery

Tonsilllectomy, adenoidectomy and laryngectomy are cases in which marking is technically impossible. Exemption from marking applies.

Fingers or toes

All fingers/toes requiring surgery must be marked individually with specification of the digit(s) requiring surgery.

Ovaries

If the operation involves both ovaries, marking is not required.

Thyroid

If the operation involves the whole organ, marking is not required.
Traceability of marking on the High 5s checklist*

Except in the case of refusal by the patient, marking or non-marking should be documented on the High 5s checklist, in the pull-out intended for this purpose (Fig. 2).

**If marking has been carried out and was done correctly:**

The “YES” box next to the question “does the marking of the site satisfy the requirements of correct marking?” must be checked. This is box “D”.

**If marking has been carried out but was not done correctly:**

The “NO” box next to the question “does the marking of the site satisfy the requirements of correct marking?” must be checked. The features of correct marking that were not respected must be circled in the list shown on the pull-out.

**If the procedure does not fall within the criteria for High 5s marking, or if the procedure is exempt from marking or marking is not possible:**

Box “F” is checked.

**Traceability and management of discrepancies**

If a discrepancy* is observed, that is to say, marking was not carried out or marking does not correspond to the requirements of correct marking and the intervention is cancelled: this is documented in box “E”. If the intervention is carried out despite this discrepancy, this information must be entered in the appropriate box. However, all members of the team must be warned of this decision before the start of the intervention.

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**SITE MARKING**

Site marking is required if:
- Laterality such as extremities; paired organs, specific surface such as flexor or extensor, specific level such as for spine surgery, specific digit or lesion

Is site marking required or possible? → NO ❑ F

Is it properly marked? YES ☐ D NO ☐

If site marking is not properly marked, decision:
- Case cancelled (unreconciled discrepancy)
- Case advanced with unresolved discrepancy

Specifications for properly marking the site
(If “No” is checked above, please circle all items in this list that are not met)
1. Marking is done by the person who will do the procedure or by a qualified designee (MD or RN participating in procedure or prep.)
2. The mark is made before patient is moved to procedure site
3. Patient is aware and involved in site marking, if possible
4. The mark is made at or near the intended incision site
5. Non-operative sites are not marked
6. The mark is unambiguous (“X” is not used for site marking)
7. The mark is made using a “permanent” skin marker
8. The method of marking is consistent with hospital policy
9. For midline access to lateral site, mark indicates correct side

Name of the person who marked the surgical site:

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Figure 2: Checklist pull-out for marking
Identification of the person who carried out the marking

In each case where marking is required, the person who marked the site is identified in the medical records and preferably in the designated place in the High 5s checklist (Fig. 2).

Verification of marking

The final verification of marking is carried out in the course of the pause (time out) before the incision (Fig. 3). When prompted by the checklist coordinator, all members of the team present in the operating theatre confirm verbally that the site of surgery has been correctly identified with reference to the marking and all the available information (medical records etc.).

<table>
<thead>
<tr>
<th>PRIOR TO SKIN INCISION</th>
<th>Final Time out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was the final &quot;time out&quot; procedure conducted properly?</td>
<td>YES</td>
</tr>
<tr>
<td>Specifications for properly conducting the final Time Out</td>
<td>- &quot;Time out&quot; occurs immediately prior to incision</td>
</tr>
<tr>
<td></td>
<td>- &quot;Time out&quot; is initiated by designated coordinator</td>
</tr>
<tr>
<td></td>
<td>- All operative team members participate in the &quot;time out&quot;</td>
</tr>
</tbody>
</table>

Final "Time out" verifies the following:

- Correct patient identity (x2)
- Correct procedure (matches consent & other info)
- Correct site of surgery by visualizing site mark
- Correct patient position for intended procedure and site
- Images correctly labelled and properly displayed
- Correct implants/special equipment available

<table>
<thead>
<tr>
<th>Management of discrepancies</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All discrepancies reconciled</td>
<td></td>
</tr>
<tr>
<td>Case cancelled because of one or more unreconciled discrepancies</td>
<td></td>
</tr>
<tr>
<td>Case advanced with one or more unresolved discrepancies</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3: Checklist pull-out for the time out

Discrepancies relating to marking to be reported during the time out:

The “NO” box next to the question “does the marking of the site satisfy the requirements of correct marking?” is “NO” (Fig. 4), → a discrepancy must be recorded during the time out: box H is checked (Fig. 5).
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**SITE MARKING**

Site marking is required if:
- Laterality such as extremities; paired organs, specific surface such as flexor or extensor, specific level such as for spine surgery, specific digit or lesion

Is site marking required or possible? ► NO [F]

YES ►

Is it properly marked? YES [D] NO [X]

Patient refuses site mark (appropriate procedure followed)

If site marking is not properly marked, decision:
- Case cancelled (unreconciled discrepancy)
- Case advanced with unresolved discrepancy [X]

Specifications for properly marking the site
(If "No" is checked above, please circle all items in this list that are not met)
1. Marking is done by the person who will do the procedure or by a qualified designee (MD or RN participating in procedure or prep.)
2. The mark is made before patient is moved to procedure site
3. Patient is aware and involved in site marking, if possible
4. The mark is made at or near the intended incision site
5. Non-operative sites are not marked

Name of the person who marked the surgical site:

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**Figure 4**: Example of the traceability of a discrepancy in the case of incorrect marking

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**Figure 5**: Example of completion of the checklist in case of incorrect marking and resolution of the discrepancy during the time out
- If marking was carried out and is correct, but is not visible during the time out (e.g.: field too small),

→ a discrepancy must be recorded during the time out: box H is checked (Fig. 6).

**Figure 6:** Example of completion of the checklist in a case where the marking is not visible during the time out.

The discrepancy may be resolved if all the professionals confirm orally their agreement to the site of surgery. The management of discrepancies must be traceable on the checklist.

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**2.6 ILLUSTRATED MARKING**

**Orthopaedics**

*Figure 7: Total prosthesis of knee*

*Figure 8: Arthroscopy*
Thoracic surgery

Figure 11: Thoracic surgery

Gynecology

Figure 12: Location under radiographic control for breast
Figure 13: Marking in gynecology
Neurosurgery

Figure 16: Rachis surgery

Figure 17: Intra-cranial surgery

Ophtalmology

Figure 18: Traditional marking for an intra-eye surgery (A) hidden by the hat (B). Proposal of marking on the cheek and the forehead (C) always visible even if the hat hides the marking on the forehead (D).
3

Team questions

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WHAT TO DO IN AN EMERGENCY?

In the case of life-threatening emergencies in which the time required for marking would lead to an additional risk to the patient, marking is not required. The risk-benefit balance must be evaluated by the surgeon who makes the decision to mark or not to mark the patient.

WHAT IF THE PATIENT REFUSES SITE MARKING?

The patient always has the right to refuse. This situation should be handled the same way as for any other refusal by a patient offered care, treatment or services. The organization’s responsibility is to provide the patient with information to understand why site marking is appropriate and desirable, and the implications of refusing the site marking. Then the patient can make an informed decision. The SOP does not require that the procedure be cancelled because the patient refuses site marking. The preoperative verification check list has a place to document this situation. Organization policy should describe the related procedural and other documentation requirements.

DELEGATION OF MARKING TO A NURSE OR PHYSICIAN DIRECTLY INVOLVED IN THE PATIENT’S OPERATION, AND MEDICO-LEGAL RESPONSIBILITIES

High 5s defines precise rules and requirements for marking regarding the person who carries out the marking: ideally the surgeon performing the operation. If this is not possible, a professional directly involved in patient preparation or in the operation can carry out this marking. This is then a case of regulated delegation, Approved during a first review of the protocol which initially stipulated that marking must be carried out by the surgeon performing the operation.

IS MARKING CARRIED OUT ON THE OPERATING TABLE CORRECT?

Marking must be carried out before the patient is positioned because it is also used to check that the patient is positioned correctly (the marking is visible, so the patient is positioned correctly). If carried out after positioning, marking loses its point.

If marking is carried out in the operating room but before the patient is on the operating table, this is acceptable (correct marking) even if it is not ideal.

However, if marking is carried out on the operating table, this is clearly a contravention of the recommendation: “Marking is carried out before the patient is transferred to the place of surgery”. In these cases, the “Incorrect marking” item on the checklist must be checked. Indeed, the indicators used in High 5s do not distinguish between marking carried out on the correct side and marking carried out correctly. The indicator collected, in those cases where marking is required, covers “marking carried out on the correct side and carried out correctly” (see 2.5).

ARE ALL SIMPLE ORGANS EXEMPT FROM MARKING?

Marking is required if the intended intervention involves only one side of an lateralised organ or one of a pair of organs, even if the other side is checked visually during the intervention. For organs such as ovaries or the thyroid, the lesions identified by imaging are not always identified by visual inspection or palpation. It is thus important to be sure that the correct side is being operated on. For certain gynaecological interventions, it is technically difficult or impossible to mark the site, and alternative methods of site identification can be used, as described in the protocol (e.g. identification wrist band specifying the patient’s identity, the site/side and the procedure, see 2.3).

In the case of the ovaries, if the operation involves both organs, marking is not required. In the case of the thyroid, if the operation involves the whole organ, marking is not required (see 2.4).

WHAT IS THE PURPOSE OF THE “CORRECT SURGICAL SITE WITH VISUALISATION OF THE MARKING” ITEM IN TIME OUT?

This is a cross-check of the marking carried out by the entire theatre team.
The importance of marking which is:

- systematic
- clear
- always attempted before the patient is transferred to theatre

**CAMBRESIS CLINIC**

The patient is scheduled for right hip replacement surgery. Marking has been carried out the day before by the surgeon.

The operation is scheduled for midday, the time when the nurses change shift.

Before transfer to theatre, the nurse checks the patient’s identity and medical file and attaches the identification wrist band to the patient’s wrist.

In theatre, the porter positions the patient for an operation on the left side.

The theatre nurse asks the patient to confirm his/her identity, the site, the side to be operated on (right side) and positions the patient in accordance with the arrangements in place.

The x-ray and the surgeon’s documents are displayed with the correct surgical site.

The nurse then has to leave the room. She is replaced by a second nurse who does not usually work with surgeons who carry out marking, so she continues setting up and prepares the patient’s skin.

The theatre nurse prepares the instrumentation for a left hip replacement, still in accordance with the patient’s position.

The surgeon enters the operating room, looks at the x-ray and determines the size of the prosthesis to be used.

When the operation starts, a 3rd nurse initiates time out. She checks the medical file and the patient’s position, notices the anomaly and stops the intervention which was about to start.

**LEON BERARD CENTRE**

A patient is scheduled to undergo local anaesthesia in relation to his back.

The anaesthetist is aided by a porter who supports the patient by holding him so that he faces him. He thus sees the marking performed correctly.

At induction of anaesthesia, the porter stops the anaesthetist who, because he could not see the marking, was about to perform anaesthesia on the wrong side.
ORGANISATIONS

Joseph Ducuing Hospital (Toulouse),
Léon Bérard Centre (Lyon),
Bourg en Bresse Hospital,
Chambéry Hospital,
St Joseph-St Luc Hospital (Lyon),
Nice University Hospital,
Ccambrésis Clinic,
Cornouaille Quimper Hospital.

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Glossary

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Checklist
A checklist is a control list based on all the essential elements of safe surgical care. It is a simple and practical tool. Every surgical team can use it to check that the measures that have been shown to be beneficial for patients have been implemented in an timely and effective manner.

Discrepancy
A discrepancy corresponds to three possible cases:
1/ During verification, the information is not consistent, or the information is missing (“A discrepancy is noted” box is checked)
2/ The verification is not included in the checklist (no box checked): “blank” line
3/ The process has not been performed properly (for marking and for time out: the NO boxes have been checked for the questions: “Does the site marking satisfy the requirements for correct marking?” and/or “Has the time out prior to incision been carried out correctly?”

Except on the advice of the surgeon, who can decide to continue the process with a discrepancy (if he/she deems it to be preferable, in the interest of the patient, to operate despite the discrepancy), as a general rule, attempts should be made to correct a discrepancy as soon as one is noticed.

Depending on the type of discrepancy, correcting the discrepancy will involve the following:
1/ In the case of a discrepancy observed in the information relating to the patient’s identity, the site or the procedure, the professional must seek the truth and correct the document containing the error
2/ When a step has not been tracked in real time: the professional who notes this type of discrepancy carries out the verification if possible
3) When the process (marking or time out) has not been carried out properly, the step is started again in compliance with the High 5s implementation rules

Laterality
The term “laterality” refers to a side of the body, i.e. the left or right side.

Level
In spinal surgery, a level corresponds to a vertebra.

Standard Operating Protocol (SOP)
The Standard Operating Protocol (SOP) relating to the surgical site relates specifically to a particular type of surgical complication: wrong person, wrong side or site, wrong procedure. The objective of this standard protocol is to prevent surgical site or procedure errors in all patients in hospital for surgery, by implementing and evaluating three complementary steps during the preoperative period:
- a systematic preoperative verification process
- marking of the surgical site
- final verification during the time out
**Time out (or pause for briefing before incision)**

Time out corresponds to the pause for briefing which takes place just before incision. The purpose of time out is to carry out a final check regarding the correctness of the patient’s identity, the procedure, the site, the patient’s position and, if applicable, the implants and special equipment required by means of active communication between all the surgical team members present in theatre. The intervention should not start until any anomalies have been resolved.

**Specifications for properly marking the site**

Marking is done by the person who will do the procedure or by a qualified designee (MD or RN participating in procedure or prep.)
The mark is made before patient is moved to procedure site. Patient is aware and involved in site marking, if possible.
The mark is made at or near the intended incision site. Non-operative sites are not marked.
The mark is unambiguous (« X » is not used for site marking).
The mark is made using a « permanent » skin marker.
The method of marking is consistent with hospital policy.
For midline access to lateral site, mark indicates correct side.

**Pre-operative checks**

The pre-operative checks consist of a process of information collection and verification at each step of the patient’s journey, from the decision to operate through to the pause for briefing before incision (“time out”). These checks are based on a pre-operative checklist which is unique to each patient, completed in real time by the various individuals involved throughout the patient’s journey from the decision to operate up to the time of incision. This continuous collection of information in the form of “check boxes” relates to the patient’s identity, the surgical procedure, the side to be operated on and, if applicable, the intended implant.

The purpose of these checks is to reduce the risks of wrong patient and wrong procedure by ensuring that all the necessary documents and diagnostic investigations are available before the start of the intervention and that they have been reviewed and correctly identified. Any missing information or anomaly must be investigated and any anomaly resolved before the start of the intervention.

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**HIGH 5s PROJECT**

Initiated by the WHO in 2006, the purpose of the “High 5s Project” is to improve the safety of healthcare in relation to 5 major patient safety problems: concentrated injectable medicines, medication accuracy at transition of care, the prevention of wrong site and wrong procedure errors in surgery, communication errors during transfer of patients and the fight against healthcare-associated infections. So far, the first three protocols are operational.
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A two-page “Quick reference surgical site marking” is also available.
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GUIDE TO SURGICAL SITE MARKING

Performance of Correct Procedure at Correct Body Site: Correct Site Surgery