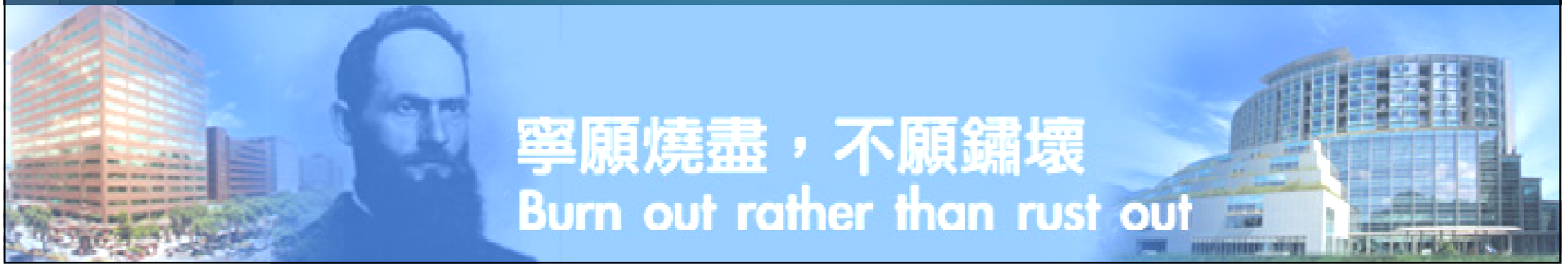


提升麻醉安全

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Burn out rather than rust out



病人安全年度目標

- 目標三：提升手術安全
 - 落實手術辨識流程
 - 落實手術安全查核項目
 - **提升麻醉照護功能，確保手術安全**
 - 落實手術儀器設備檢測作業
 - 建立適當機制，檢討不必要之手術



Helsinki Declaration on Patient Safety in Anaesthesiology

- Euroanaesthesia congress in Helsinki in June 2010
 - EBA and ESA
 - WHO
 - World Federation of Societies of Anaesthesiologists (WFSA)





7 Principal Requirements

1. Minimum standards of monitoring recommended
2. Protocols and the necessary facilities
3. Anaesthesiology recognised sedation standards
4. WHO Safe Surgery Saves Lives initiative and Checklist
5. Annual report of measures and results
6. Annual report on morbidity and mortality
7. Audits of safe practice and critical incident reporting systems





1. Standards of Monitoring

- International Standards for a Safe Practice of Anesthesia – WFSA
 - 2010: Pulse Oximetry mandatory
 - 2008: Safe Anesthesia Working Group, WHO
- 醫院安全作業參考指引 - 台灣醫院協會
 - 麻醉安全作業參考指引
 - 98年度
 - 94年度





2. Protocols for safety aspects

- Preoperative assessment and preparation
- Checking equipment and drugs
- Syringe labelling
 - 麻醉藥物標準標籤製作與使用參考作業指引
- Difficult/failed intubation
- Malignant hyperpyrexia
- Anaphylaxis
- Local anaesthetic toxicity
- Massive haemorrhage
- Infection-control
- Post operative care including pain relief



3. Sedation Standards

- 98年度 麻醉安全作業參考指引
 - 鎮靜止痛作業參考指引





4. WHO Safe Surgery Checklist

手術安全把關

麻醉誘導前	<ul style="list-style-type: none"> ● 與病人確認其身分、手術部位、手術名稱，以及麻醉/手術同意書 ● 手術部位已標示 ● 完成麻醉設備及藥物安全評估 ● 確認血氧濃度計已安裝於病人且功能正常 	<ul style="list-style-type: none"> ● 確認病人有無下列情況： <ul style="list-style-type: none"> * 過敏 * 發生困難插管或吸入性肺炎的風險 * 如失血量可能超過500ml (孩童7ml/kg)，已備有適當的靜脈注射管道及輸液
Briefing	<ul style="list-style-type: none"> ● 確認手術團隊成員姓名與角色 ● 手術團隊共同口頭確認病人的姓名、劃刀部位、手術名稱 ● 劃刀前60分鐘內已給予預防性抗生素 	<p>重要事項評估：</p> <ul style="list-style-type: none"> ● 手術醫師： <ul style="list-style-type: none"> * 有無急迫或非常規的手術步驟 * 手術時間 * 預期失血量 ● 麻醉人員： <ul style="list-style-type: none"> * 病人有無應注意之特殊狀況 ● 護理人員： <ul style="list-style-type: none"> * 無菌區內所有用物已完成滅菌 * 器械無異常 ● 確認與手術相關的影像檢查資料已呈現
Debriefing	<ul style="list-style-type: none"> ● 由護理人員與手術團隊共同口頭確認： <ul style="list-style-type: none"> * 手術名稱已記錄 * 手術器械、紗布與針頭清點數量正確 * 手術檢體已正確標記 * 有無須做後續處理的器械問題 	<ul style="list-style-type: none"> ● 手術醫師、麻醉人員與護理人員共同確認病人於麻醉恢復與術後照護的注意事項

Time out
團隊合作一起把關
~ 再次確認病人、術式、手術部位 ~

註：本表僅供參考，不代表所有的應把關項目，各醫療機構可自行增修。

行政院衛生署委託財團法人醫院評鑑暨醫療品質策進會印製 2010.12





5. Annual Report of Measures and Results

- 手術安全把關運動提報指標
 - 手術安全把關達成率
 - 手術30天內手術部位感染率
 - 非計畫性重返手術室
 - 劃刀前60分鐘內給予預防性抗生素的比率
 - 所有手術術後48小時內死亡率
 - 確認病人身分及手術部位的比率
 - 有術前評估插管困難的比率
 - 血氧飽和濃度儀的使用率
 - 當失血量超過500ml有兩條靜脈/中央靜脈導管準備並備妥適當之輸液的比率
 - 紗布清點的完成率
 - 手術併發症比率

6. Annual Report on Morbidity and Mortality



- 麻醉重大併發症暨死亡病例的調查
 - 台灣麻醉醫學會



7. Critical Incident Reporting Systems

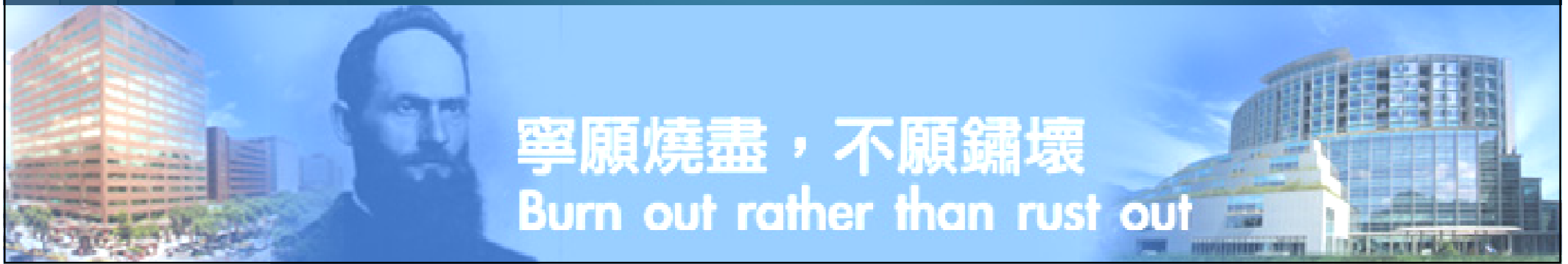


- 台灣病人安全通報系統



Safe Surgery Saves Lives

WHO



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Ten Essential Objectives for Safe Surgery

The team will

1. operate on the correct patient at the correct site
2. use methods known to prevent harm from administration of anaesthetics, while protecting the patient from pain
3. recognize and effectively prepare for life-threatening loss of airway or respiratory function
4. recognize and effectively prepare for risk of high blood loss
5. avoid inducing an allergic or adverse drug reaction for which the patient is known to be at significant risk
6. consistently use methods known to minimize the risk for surgical site infection
7. prevent inadvertent retention of instruments and sponges in surgical wounds
8. secure and accurately identify all surgical specimens
9. effectively communicate and exchange critical information for the safe conduct of the operation
10. Hospitals and public health systems will establish routine surveillance of surgical capacity, volume and results



手术安全核对表



世界卫生组织

患者安全
促进医疗安全的世界联盟



麻醉诱导前

(至少要护士、麻醉师核对)

患者是否已经确认了其身份、手术部位和名称, 是否已签署手术同意书?

是

是否已标记手术部位?

是

不适用

麻醉机和麻醉药品是否核对完毕?

是

是否给患者进行血氧饱和度监测, 该仪器运转是否正常?

是

患者是否有

既往过敏史?

否

是

是否存在气道困难/误吸的风险?

否

是, 所需设备/辅助人员已就位

是否存在失血量>500ml (儿童>7ml/kg) 的风险?

否

是, 已建立两条静脉通道 / 保留中央静脉导管, 已备好液体

切开皮肤前

(护士、麻醉师、手术医师核对)

确认团队的所有成员要自我介绍其姓名和职责

确认患者姓名、手术名称和手术部位

手术前60分钟内, 是否给患者注射了预防性抗生素?

是

不适用

预期的关键事件

手术医师:

手术的关键步骤是什么?

手术需要多长时间?

预计的手术失血量是多少?

麻醉师:

患者有没有特殊的注意事项?

护理团队:

消毒(包括消毒指示带结果)完成没有?

设备有没有问题? 有没有其它的注意事项?

是否已展示必需的影像资料?

是

不适用

患者离开手术室前

(护士、麻醉师、手术医师核对)

护士口头确认:

手术名称

清点完毕手术器械、敷料和针头

标记手术标本(大声朗读标本标签, 包括患者姓名)

是否存在需要解决的设备问题

手术医师、麻醉师和护士:

手术后, 该患者在康复、治疗方面的特别注意事项?

本核对表并非面面俱到。为适应本地情况, 鼓励对此表做出补充和修改。

1/2009 修订

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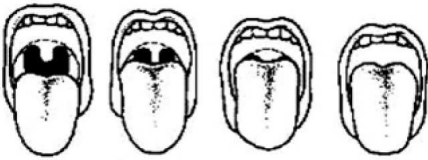


手術安全查核表 – 把事情做對

■ 麻醉誘導前

- 是否已完成麻醉設備與藥物安全評估之查檢
 - ABCDEs
- 是否已確認血氧飽和濃度儀已安裝且功能正常
- 發生困難插管或吸入性肺炎的風險
 - 已備有儀器設備或後援
- 失血量超過 500mL(孩童 7mL/kg)的可能
 - 已具有至少兩條靜脈/中央靜脈導管之準備並備妥適當之輸液



Check patient risk factors (if yes – circle and annotate)		Check resources	Present and functioning
ASA 1 2 3 4 5 E		Airway – Masks – Airways – Laryngoscopes (working) – Tubes – Bougies	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Airway (Mallampati classification)  Class 1 Class 2 Class 3 Class 4		Breathing – Leaks (a fresh gas flow of 300 ml/min maintains a pressure of >30 cm H ₂ O) – Soda lime (colour, if present) – Circle system (two-bag test, if present)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Aspiration risk?	No	suCtion	<input type="checkbox"/>
Allergies	No	Drugs and devices – Oxygen cylinder (full and off) – Vaporizers (full and seated) – Drips (intravenous secure) – Drugs (labelled, total intravenous anaesthesia connected) – Blood and fluids available – Monitors: alarms on – Humidifiers, warmers and thermometers	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Abnormal investigations?	No		
Medications?	No	Emergency – Assistant – Adrenaline – Suxamethonium – Self-inflating bag Tilting table	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
co-Morbidities?	No		

手術安全把關指標提報數據



手術安全把關響應醫院提報情形 — 2011 年 5 月資料

	家數	率	手術安全把關達成率	手術30天內手術部位感染率	非計畫性重返手術室	劃刀前60分鐘內給予預防性抗生素的比率	所有手術術後48小時內死亡率	確認病人身分及手術部位的比率	有術前評估插管困難的比率	失血量超過500ml並備妥導管/輸液儀的比率	血氧飽和度儀的使用率	紗布清點的完成率	手術併發症的比率
醫療機構(49床以下)	10	100.0%	0.0%	0.8%	64.0%	0.0%	100.0%	60.4%	100.0%	21.2%	87.6%	0.9%	
醫療機構(50~99床)	4	100.0%	0.0%	0.0%	85.9%	0.0%	100.0%	38.1%	100.0%	0.0%	61.1%	無資料	
醫療機構(100~249床)	15	98.9%	6.5%	0.2%	89.1%	0.1%	100.0%	96.1%	98.0%	100.0%	100.0%	0.6%	
醫療機構(250~499床)	13	99.6%	0.3%	0.6%	93.7%	0.1%	99.5%	98.7%	99.6%	5.4%	99.8%	2.8%	
醫療機構(500床以上)	10	95.1%	0.4%	1.4%	87.1%	0.1%	95.9%	93.1%	100.0%	61.6%	95.7%	1.1%	
全體數據	52	97.2%	1.1%	1.0%	88.1%	0.1%	97.4%	94.1%	99.7%	52.8%	96.5%	1.6%	

- 提醒：1. 上列表格數據為各醫院規模的加權平均值。
 2. 同儕資料僅供參考，敬請持續監測自我改善為目標。
 3. 感謝各響應醫院提報資料，手術安全把關需你我共同努力。





7. 有術前評估插管困難的比率

- 分子：有執行術前評估插管困難的住院手術總人次
 - 進入手術室之前完成評估，含在等候室完成。
- 分母：在手術室執行的住院手術總人次



9. 當失血量超過 500 mL

有兩條靜脈/中央靜脈導管準備並備妥適當之輸液的比率

- 分子：有兩條靜脈/中央靜脈導管準備並備妥適當之輸液的總數
- 分母：在手術室執行的住院手術總人次




Modifying the Checklist

- Reformat, Reorder or Revise the Checklist to accommodate local practice while ensuring completion of the critical safety steps in an efficient manner
- Comprehensive Surgical Checklist - AORN



COMPREHENSIVE SURGICAL CHECKLIST

Blue = World Health Organization (WHO) Green = The Joint Commission - Universal Protocol (JC) 2010 National Patient Safety Goals Orange = JC and WHO

PREPROCEDURE CHECK-IN	SIGN-IN	TIME-OUT	SIGN-OUT
In Holding Area	Before Induction of Anesthesia	Before Skin Incision	Before the Patient Leaves the Operating Room
Patient/patient representative actively confirms with Registered Nurse (RN):	RN and anesthesia care provider confirm:	Initiated by designated team member	RN confirms:
<p>Identity <input type="checkbox"/> Yes</p> <p>Procedure and procedure site <input type="checkbox"/> Yes</p> <p>Consent(s) <input type="checkbox"/> Yes</p> <p>Site marked <input type="checkbox"/> Yes <input type="checkbox"/> N/A by person performing the procedure</p> <p>RN confirms presence of:</p> <p>History and physical <input type="checkbox"/> Yes</p> <p>Preanesthesia assessment <input type="checkbox"/> Yes</p> <p>Diagnostic and radiologic test results <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p> <p>Blood products <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p> <p>Any special equipment, devices, implants <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p>	<p>Confirmation of: identity, procedure, procedure site and consent(s) <input type="checkbox"/> Yes</p> <p>Site marked <input type="checkbox"/> Yes <input type="checkbox"/> N/A by person performing the procedure</p> <p>Patient allergies <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p> <p>Difficult airway or aspiration risk? <input type="checkbox"/> No <input type="checkbox"/> Yes (preparation confirmed)</p> <p>Risk of blood loss (> 500 ml) <input type="checkbox"/> Yes <input type="checkbox"/> N/A # of units available _____</p> <p>Anesthesia safety check completed <input type="checkbox"/> Yes</p> <p>Briefing: All members of the team have discussed care plan and addressed concerns <input type="checkbox"/> Yes</p>	<p>All other activities to be suspended (unless a life-threatening emergency)</p> <p>Introduction of team members <input type="checkbox"/> Yes</p> <p>All: Confirmation of the following: identity, procedure, incision site, consent(s) <input type="checkbox"/> Yes</p> <p>Site is marked and visible <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p> <p>Relevant images properly labeled and displayed <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p> <p>Any equipment concerns?</p> <p>Anticipated Critical Events Surgeon: States the following: <input type="checkbox"/> critical or nonroutine steps <input type="checkbox"/> case duration <input type="checkbox"/> anticipated blood loss</p> <p>Anesthesia Provider: <input type="checkbox"/> Antibiotic prophylaxis within one hour before incision <input type="checkbox"/> Yes <input type="checkbox"/> N/A <input type="checkbox"/> Additional concerns?</p>	<p>Name of operative procedure</p> <p>Completion of sponge, sharp, and instrument counts <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p> <p>Specimens identified and labeled <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p> <p>Any equipment problems to be addressed? <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p> <p>To all team members: What are the key concerns for recovery and management of this patient?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>April 2010</p>
<p>Include in Preprocedure check-in as per institutional custom:</p> <p>Beta blocker medication given (SCIP) <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p> <p>Venous thromboembolism prophylaxis ordered (SCIP) <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p> <p>Normothermia measures (SCIP) <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p>		<p>Scrub and circulating nurse: <input type="checkbox"/> Sterilization indicators have been confirmed <input type="checkbox"/> Additional concerns?</p>	

The JC does not stipulate which team member initiates any section of the checklist except for site marking.

The Joint Commission also does not stipulate where these activities occur. See the Universal Protocol for details on the Joint Commission requirements.



參考資料

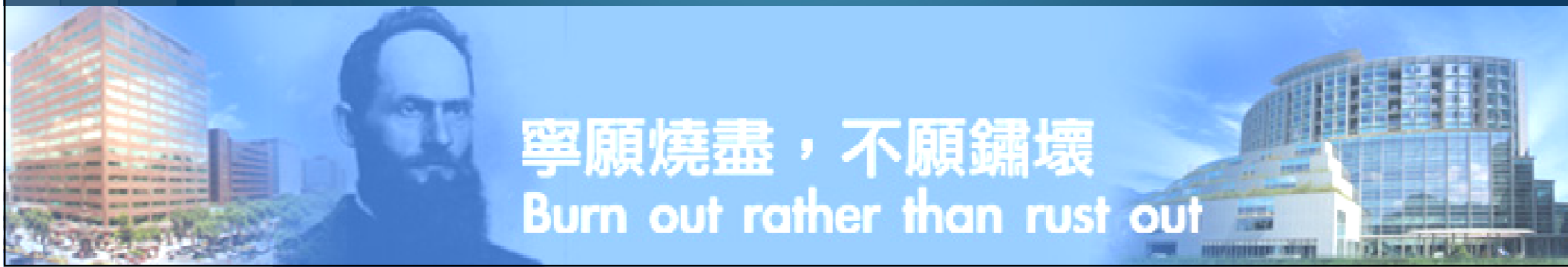


- WHO <http://www.who.int>
- World Federation of Societies of Anaesthesiologists
<http://www.anaesthesiologists.org>
- European Society of Anaesthesiology
<http://www.euroanaesthesia.org>
- 檔案下載
<http://patientsafety.tw/download/2011-09-08.pdf>



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