

UTILISATION DE L'OXYMÉTRIE CÉRÉBRALE POUR LA CONDUITE DE LA CEC. POINT DE VUE DU PERFUSIONNISTE.



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Complications psychiatriques après chirurgie cardiaque

Le Praticien en Anesthésie Réanimation

2004 ; 8 (2) : 125-32 P. Lena

Hypoxémies et confusions post-opératoires

2007 - 33^{ème} JMARU D. Lena

Les délires et confusions aigus postopératoires

Le Praticien en Anesthésie Réanimation

2008 ; 12 (2) : 99-106 D. Lena, A. de la Chapelle

Dissection aortique : Quand le cerveau est le coeur du traitement

2011 - 37^{ème} JMARU Ph. Camarasa



Neuromonitoring de base :

BIS et NIRS systématiques

+/- DTC

et ETO systématique









SvO₂

Δ PA

DEBIT de PERFUSION

DEBIT de GAZ (O₂/Air)

NIRS

Δ PaCO₂

FiO₂

Δ PaO₂

GAZ HALOGENE ...

Δ BIS







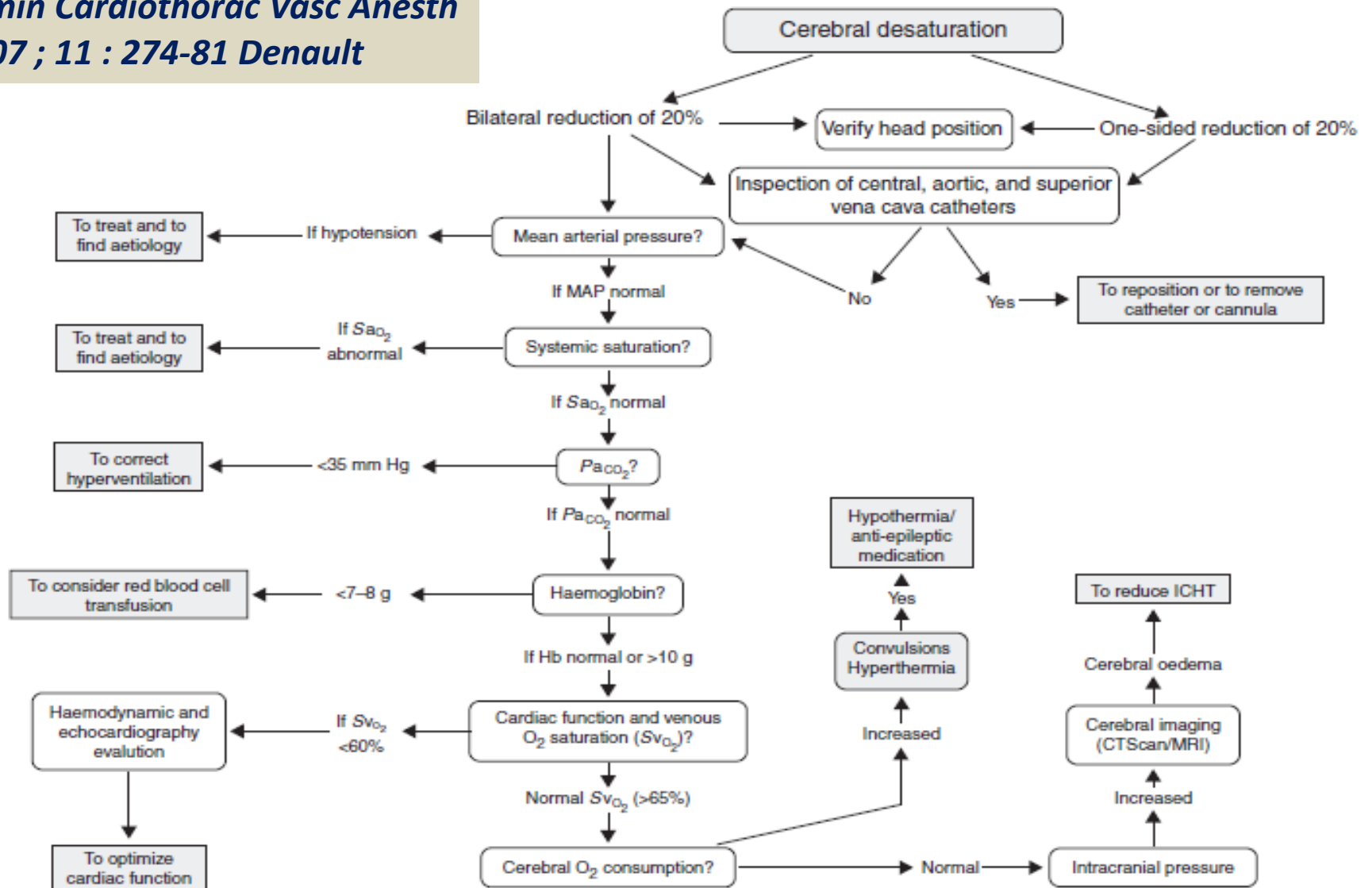


Fig 2 Proposed algorithm in the use of brain oximetry. CT, computed tomography; ICHT, intra-cranial hypertension; MAP, mean arterial pressure; MRI, magnetic resonance imaging. Reprinted from Denault and colleagues,¹⁶ with permission from SAGE Publications Inc.

DESATURATION CEREBRALE PER-CEC

- ❑ POSITION DE LA TÊTE → Dans l'axe et en extension
- ❑ CANULATION VEINEUSE
 - ❑ Cannulation VCS → **Repositionner**
 - ❑ Mauvais retour veineux → **VasoC / ↗ Débit**
- ❑ PAM < basale – 20%
 - ❑ Etiologie ? → **↗ FiO₂**
- ❑ PaO₂ < 120 mm Hg → **↘ Ventilation (= 40 mmHg)**
 - ❑ Etiologie ? → **CGR**
- ❑ PaCO₂ < 35 mm Hg
- ❑ Hte ≤ 25 %
- ❑ SvO₂ < 60%
 - ❑ BIS > 50 : réveil ? → **↗ Anesthésie**
 - ❑ BIS < 50 : débit inadapté ? → **↗ Débit**



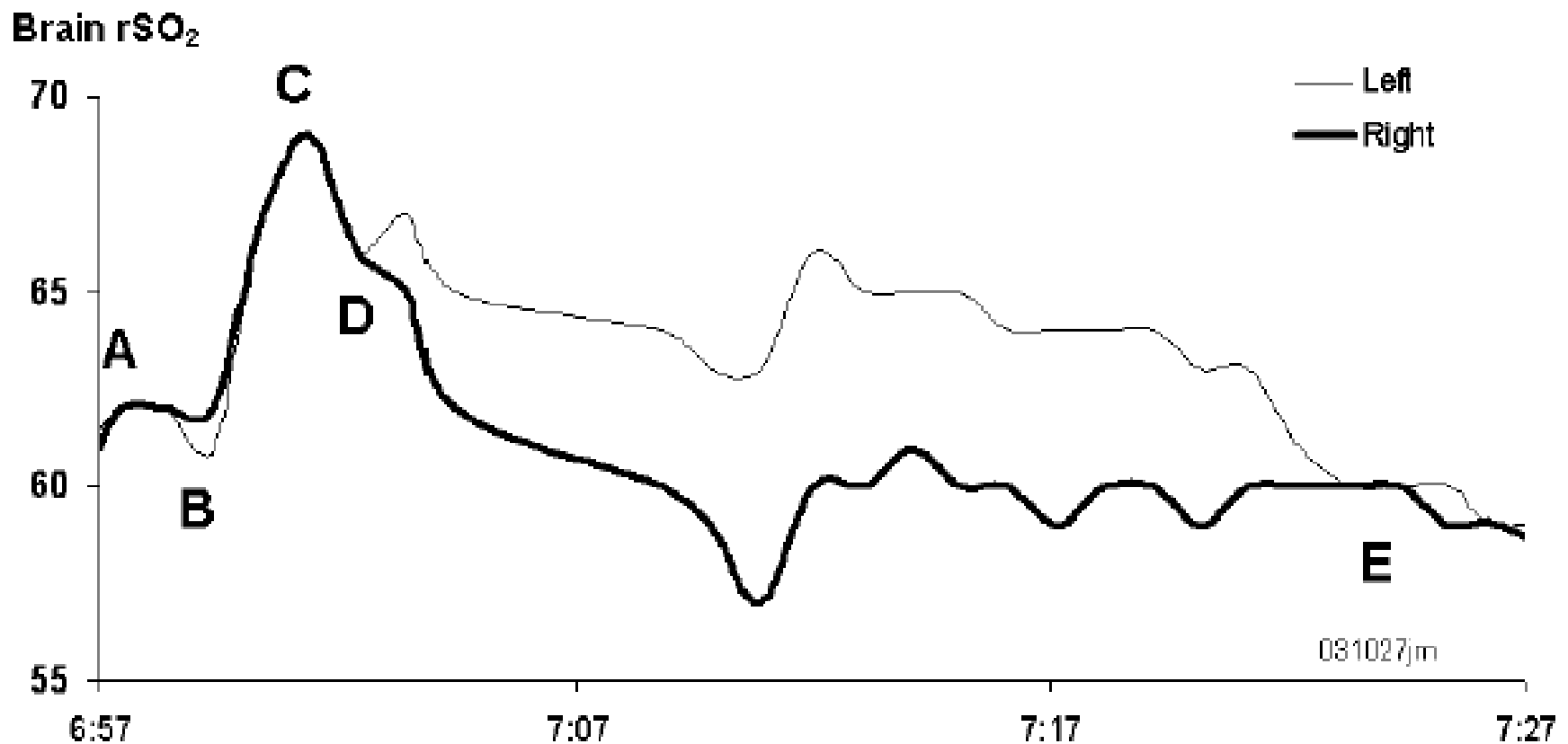


Figure 3. Clinically important changes in the intraoperative rSO₂ trend prior to skin incision are shown. The thick line represents the right frontal cortex and the thin line represents the left. Values at marker A were obtained in the awake patient before pre-oxygenation. General anesthetic induction began at marker B, and endotracheal intubation was successfully completed at marker C. A left-to-right asymmetry appeared at marker D coincident with axial head rotation to the left for insertion of a pulmonary artery catheter. The asymmetry disappeared at marker E as the head was returned to a neutral position.

Femme 74 ans, CABG+RVA+RVM , *canulation bi-cave...*

RV inchangé

PAM # 75 mmHg

T° nasoph. = 32°C

PaO₂ = 33,4 Kpa

PaCO₂ = 4,8 KPa

SvO₂ > 70%

BIS = 37

P_{OD} -3 à +5 mmHg

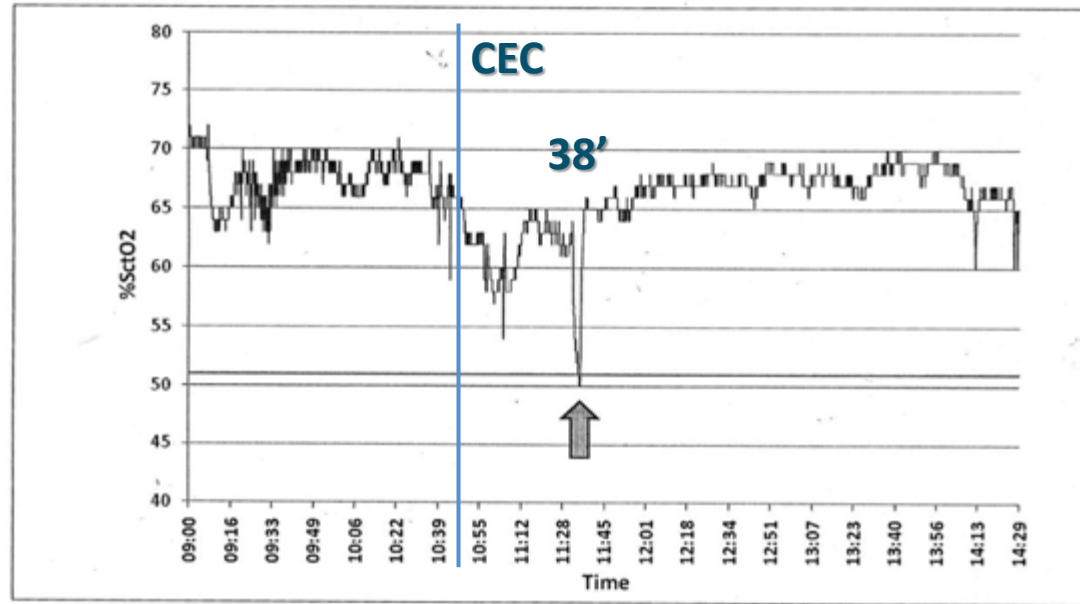
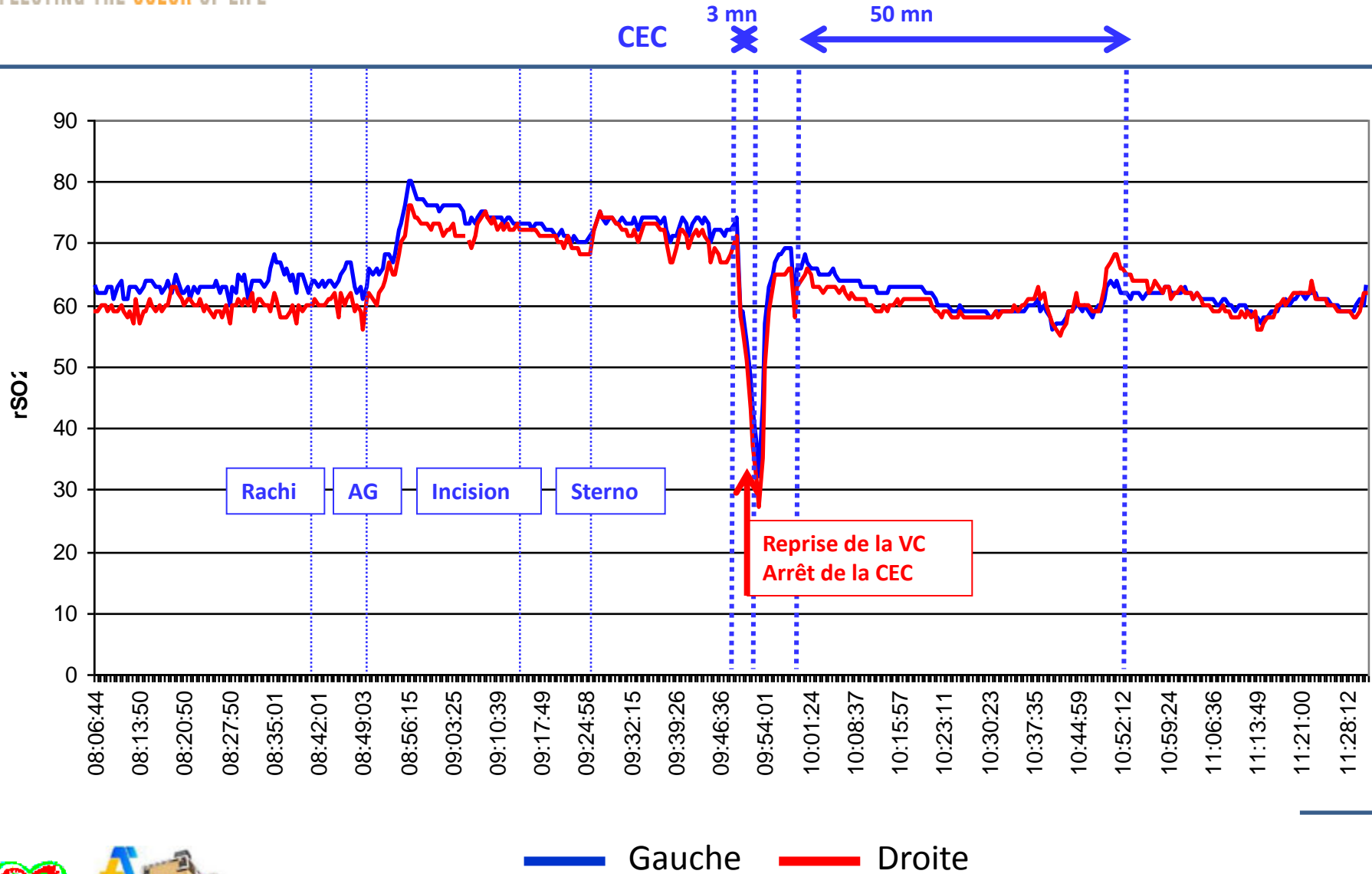


Figure 1. Cerebral oximetry trace throughout surgery. Arrow indicates snaring of SVC, leading to cerebral desaturation and discovery of SVC cannula misplacement.

NIRS → vérification des canules → canule VCS a glissé dans l'OD...

Sans NIRS → ∩ DSC ... → œdème cérébral ? ...

Panne mélangeur/analyseur gaz au départ CEC



Notion de « FIRST-ALERT »...



STS National Database

<http://www.sts.org/sections/stsnationaldatabase/riskcalculator/>

Cerebral Oximetry: Optional Harvest

Pre-Induction Baseline Regional Oxygen Saturation: Left: _____ (%) Right _____ (%)

Cumulative Saturation Below Threshold: Left: _____ (minute-%) Right _____ (minute-%)

Cerebral Oximeter Provided The First Indication: Yes No

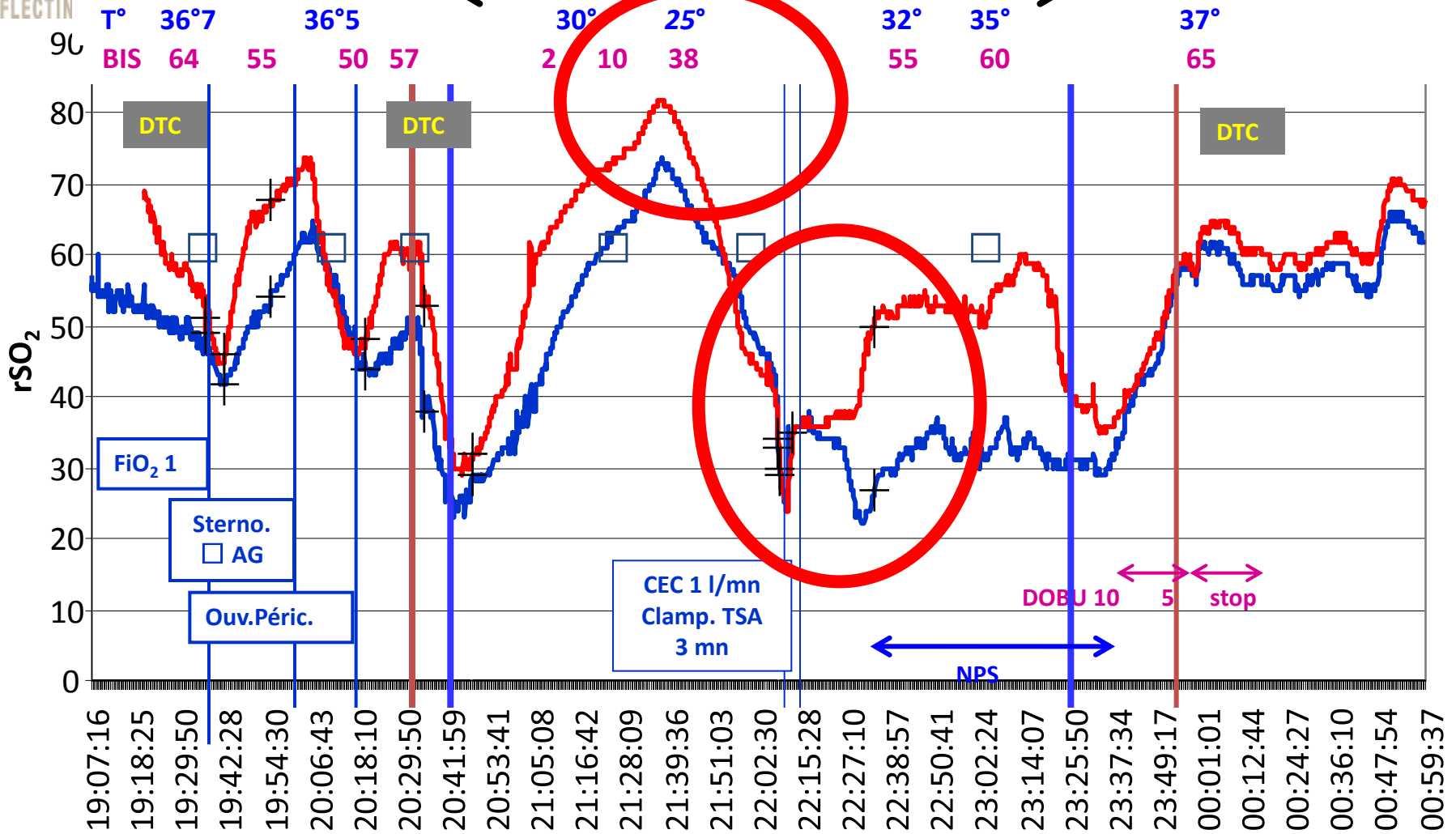
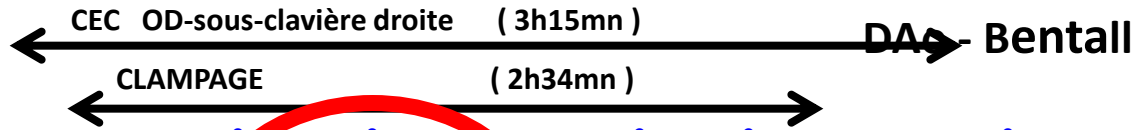
Skin Closure Regional Oxygen Saturation: Left: _____ (%) Right _____ (%)

OUI ... 23% !

(8406/36548) Janvier 2008 à décembre 2009



PP > 70 mmHg – Hte > 30%





SOMANETICS

NON INVASIVE
PULSAR SOXIMETER
CUTANEA SOXIMETRIC

07.05.09 11:17:37 ADULTE %rSO₂



L 90

SSI



R 70

SSI

MENU LIGNE DE BASE MARQUEUR EVENEMENT MAR. ARR ALARM AUDIO MENU SUIVANT





Cardioplégie

*Réduire l'anesthésie ?
Vasoconstricteur ?*