# ABSTRACTS

## Alpha-2 agonists: can they modify the outcomes in the Postanesthesia Care Unit?

Pandharipande P, Ely EW, Maze M

While most patients recover uneventfully from the effects of anesthesia and surgery, for a small percentage of patients the immediate postoperative period can be a period of significant physiological stress. Hence the goal for a Post Anesthesia Care Unit (PACU) is to provide a safe environment for a patient to recover, while avoiding the undesirable side effects of pain, nausea, vomiting and shivering, and to monitor for potentially life threatening hemodynamic and respiratory complications that may require admission into the intensive care unit (ICU). Anesthetic techniques in the operating room are extremely important as these may have significant bearing on the post-operative course. The type of surgery, the patients' co morbid conditions, anticipated extubation and recovery of the patient, as well as the sophistication of the PACU and the expertise of its staff, all influence the choice of anesthetic technique. These agents, however, may themselves contribute to some of the complications and unpleasant events encountered in the PACU. Therefore, evaluation of newer and safer agents, which promote a smoother PACU transition, are warranted. Alpha 2 agonists are increasingly being used as adjuvant therapeutic agents in the perioperative period because of their ability to block the sympathetic stress response, complete with their anesthetic and analgesic sparing properties, lack of respiratory depression and low and predictable side effect profile. (Curr Drug Targets. 2005 Nov;6(7):749-54.

## [Efficacy of clonidine in paediatric anaesthesia]

Huber D, Kretz FJ

Clonidine is a mixed alpha (2)-/alpha (1)- adrenoceptor agonist. It decreases sympathetic tone and increases parasympathetic tone, which results in a lowering of blood pressure and heart rate. It was introduced as an antihypertensive medication in the late sixties. Yet Clonidine also has a sedative effect due to alpha (2)-adrenoceptor stimulation in the locus coeruleus and antinociceptive action caused through postjunctional noradrenergic pathways in the brainstem and spinal cord. This analgesic property of Clonidine has raised broad interest in its beneficial use in anaesthesiology. In adults and pediatric anaesthesia, clonidine can be safely and effectively used for premedication, intraoperative and postoperative analgesia, postoperative shivering, and for analgo-sedation in intensive care. This article will consider possible indications of Clonidine in children's anaesthesia and intensive care medicine. (Anasthesiol Intensivmed Notfallmed Schmerzther. 2005 Oct;40(10):567-75)

## Continuous peripheral nerve blocks in hospital wards after orthopedic surgery: a multicenter prospective analysis of the quality of postoperative analgesia and complications in 1,416 patients.

Capdevila X, Pirat P, Bringuier S, Gaertner E, Singelyn F, Bernard N, Choquet O, Bouaziz H, Bonnet F; French Study Group on Continuous Peripheral Nerve Blocks.

RESULTS: The median duration of CPNB was 56 h. Both general anesthesia and CPNB were performed in 73.6% of the patients. Postoperative analgesia was effective in 96.3%, but an increase in pain scores was noted at hour 24 (P = 0.01). Hypoesthesia or numbness occurred in 3% and 2.2%, respectively, and paresthesia occurred in 1.5%. Three neural lesions (0.21%) were noted after continuous femoral nerve block. Two of these patients were anesthetized during block procedure. Nerve damage completely resolved 36 h to 10 weeks later. Cultures from 28.7% of the catheters were positive. Three percent of patients had local inflammatory signs. The bacterial species most frequently found were coagulase-negative staphylococcus (61%) and gram-negative bacillus (21.6%). A Staphylococcus aureus psoas abscess (0.07%) was reported in one diabetic woman. Independent risk factors for paresthesia/dysesthesia were postoperative monitoring in intensive care, age less than 40 yr, and use of bupivacaine. Risk factors for local inflammation/infection were postoperative monitoring in intensive care, catheter duration greater than 48 h, male sex, and absence of antibiotic prophylaxis. CONCLUSION: CPNB is an effective technique for postoperative analgesia. Minor incidents and bacterial colonization of catheters are frequent, with no adverse clinical consequences in the large majority of cases. Major neurologic and infectious adverse events are rare. (Anesthesiology. 2005 Nov;103(5):1035-45.)

## Analgesia and local anesthesia during invasive procedures in the neonate

Anand KJ, Johnston CC, Oberlander TF, Taddio A, Lehr VT, Walco GA.

RESULTS: The most commonly performed invasive procedures in neonates included heel lancing, venipuncture, IV or arterial cannulation, chest tube placement, tracheal intubation or suctioning, lumbar puncture, circumcision, and SC or IM injection. Various drug classes were examined critically, including opioid analgesics, sedative/hypnotic drugs, nonsteroidal anti-inflammatory drugs and acetaminophen, injectable and topical local anesthetics, and sucrose. Research considerations related to each

drug category were identified, potential obstacles to the systematic study of these drugs were discussed, and current gaps in knowledge were enumerated to define future research needs. Discussions relating to the optimal design for and ethical constraints on the study of neonatal pain will be published separately. Well-designed clinical trials investigating currently available and new therapies for acute pain in neonates will provide the scientific framework for effective pain management in neonates undergoing invasive procedures. (Clin Ther. 2005 Jun;27(6):844-76.)

**Analgesia and anesthesia for neonates: study design and ethical issues.**

Anand KJ, Aranda JV, Berde CB, Buckman S, Capparelli EV, Carlo WA, Hummel P, Lantos J, Johnston CC, Lehr VT, Lynn AM, Maxwell LG, Oberlander TF, Raju TN, Soriano SG, Taddio A, Walco GA.

RESULTS: Designing clinical trials to investigate novel or currently available approaches for analgesia and anesthesia in neonates requires consideration of salient study designs and ethical issues. Conditions requiring treatment include pain/stress resulting from invasive procedures, surgical operations, inflammatory conditions, and routine neonatal intensive care. Study design considerations must define the inclusion and exclusion criteria, a rationale for stratification, the confounding effects of comorbid conditions, and other clinical factors. Significant ethical issues include the constraints of studying neonates, obtaining informed consent, making risk-benefit assessments, defining compensation or rewards for participation, safety considerations, the use of placebo controls, and the variability among institutional review boards in interpreting federal guidelines on human research. For optimal study design, investigators must formulate well-defined study questions, choose appropriate trial designs, estimate drug efficacy, calculate sample size, determine the duration of the studies, identify pharmacokinetic and pharmacodynamic parameters, and avoid drug-drug interactions. Specific outcome measures may include scoring on pain assessment scales, various biomarkers and their patterns of response, process outcomes (eg, length of stay, time to extubation), intermediate or long-term outcomes, and safety parameters. CONCLUSIONS: Much more research is needed in this field to formulate a scientifically sound, evidence-based, and clinically useful framework for management of anesthesia and analgesia in neonates. Newer study designs and additional ethical dilemmas may be defined with accumulating data in this field. (Clin Ther. 2005 Jun;27(6):814-43.)

**Continuous intra-and postoperative thoracic epidural analgesia attenuates brain natriuretic peptide release after major abdominal surgery**

Suttner S, Lang K, Piper SN, Schultz H, Rohm KD, Boldt J.

We investigated whether blocking afferent nociceptive inputs by continuous intra- and postoperative thoracic epidural analgesia (TEA) would decrease plasma concentrations of brain natriuretic peptide (BNP) in patients who were at risk for, or had, coronary artery disease. Twenty-eight patients undergoing major abdominal surgery received either general anesthesia supplemented with a continuous thoracic epidural infusion of 1.25 mg/mL bupivacaine and 1 microg/mL sufentanil (n = 14; TEA) or general anesthesia followed by IV patient-controlled analgesia (n = 14; IV PCA). Visual analog scale pain scores, hemodynamics, plasma catecholamines, cardiac troponin T, atrial natriuretic peptide (ANP), and BNP were serially measured preoperatively, 90 min after skin incision, at arrival in the intensive care unit, and in the morning of the first, second, and third postoperative day. Dynamic visual analog scale scores were significantly less in the TEA group. TEA reduced the postoperative heart rate without affecting other hemodynamic variables. Plasma epinephrine increased perioperatively in both groups but was significantly lower in the TEA group. Baseline ANP and BNP concentrations were similar between groups (TEA 3.4 +/- 1.8 and 27.0 +/- 12.3 pg/mL; IV PCA 3.1 +/- 2.0 and 25.9 +/- 13.0 pg/mL, respectively). ANP and BNP increased perioperatively in both groups, with significantly lower postoperative BNP levels in TEA patients (TEA 92.1 +/- 31.9 pg/mL; IV PCA 161.2 +/- 44.7 pg/mL). No such difference was observed in plasma ANP concentrations. Plasma cardiac troponin T concentrations were within normal limits in both groups at all times. We conclude that continuous perioperative TEA using local anesthetics and opioids attenuated the release of BNP in patients undergoing major abdominal surgery who were at risk for, or had, coronary artery disease. (Anesth Analg. 2005 Sep;101(3):896-903)

**Comparison of lumbar epidural tramadol and lumbar epidural morphine for pain relief after thoracotomy: a repeated-dose study.**

Turker G, Goren S, Bayram S, Sahin S, Korfali G.

MEASUREMENTS AND MAIN RESULTS: The groups' analgesia onset times were similar, but duration of analgesia was significantly shorter in group T than in group M ($p < 0.01$). There were no differences between the groups with respect to pain scores at rest or during coughing at any of the time points investigated. Sedation scores were lower in group T than in group M at 1, 2, 3, 4, and 8 hours (p value range, 0.0001-0.05). Compared with group T, group M showed significantly greater drops in arterial oxygen tension from baseline at 3, 4, 8, and 12 hours (p value range, 0.0001-0.05). The group means for arterial carbon dioxide tension and respiratory rate were similar at all time points investigated. CONCLUSION: The study revealed that the quality of analgesia achieved with repeated doses of lumbar epidural tramadol after muscle-sparing thoracotomy is comparable to that achieved with repeated doses of lumbar epidural morphine. Compared with morphine, lumbar epidural tramadol results in less sedation and a less-pronounced decrease in oxygenation. (J Cardiothorac Vasc Anesth. 2005 Aug;19(4):468-74.)

**Comparison of three anesthetic techniques for off-pump**

**coronary artery bypass grafting: general anesthesia, combined general and high thoracic epidural anesthesia, or high thoracic epidural anesthesia alone.**
Kessler P, Aybek T, Neidhart G, Dogan S, Lischke V, Bremerich DH, Byhahn C.

MEASUREMENTS AND MAIN RESULTS: Groups were comparable regarding the surgical approaches and the number of anastomoses. Four patients (GA, n=2; GA+TEA, n=2) who required unplanned cardiopulmonary bypass, and 4 patients in the TEA group who underwent unexpected intubation because of pneumothorax (n=2), phrenic nerve palsy, or incomplete analgesia were excluded from further analysis. Intraoperative heart rate decreased significantly with both GA+TEA and TEA. None of the patients with TEA alone was admitted to the intensive care unit, they all were monitored on average for 6 hours postoperatively in the intermediate care unit and allowed to eat and drink as desired on admission. Postoperative pain scores were lower in both groups with TEA. There were no differences among groups in patients overall satisfaction. CONCLUSION: Based on the authors data, all anesthetic techniques were equally safe from the clinicians standpoint. However, GA+TEA appeared to be most comprehensive, allowing for revascularization of any coronary artery, providing good hemodynamic stability and reliable postoperative pain relief. Nonetheless, the actual and potential risks of TEA during cardiac surgery should not be underestimated. (J Cardiothorac Vasc Anesth. 2005 Feb;19(1):32-9)

**Non-steroidal anti-inflammatory drugs, antiplatelet medications and spinal axis anesthesia.**
Broadman LM.

Many individuals use cyclo-oxygenase inhibitors (COX-1 and COX-2 non-steroidal anti-inflammatory drugs) and antiplatelet medications on a regular basis. This is particularly true of the elderly, who are more prone to having osteoarthritis, rheumatoid arthritis, and cardiac disease. Some of these agents alter platelet function and may increase the risk of spinal/epidural hematoma formation if spinal axis anesthesia is utilized without following proper precautions. All anesthesiologists should be familiar with these agents and how they work. More importantly, they should be familiar with the established guidelines set forth by the American Society of Regional Anesthesia (ASRA) [Regional anesthesia in the anticoagulated patient-defining the risk (2002); Reg. Anes. Pain Med. 28 (2003)172], the German Society of Anesthesiology and Intensive Care Medicine (DGAI) [Anaesthesiol. Intensivmed. 38 (1997) 623], and the Spanish Consensus Forum [Rev. Esp. Anesthesiol. Reanim. 48 (2001) 270]. This article explains the mechanism of action of each of the medications which alter platelet function, defines the risks of hematoma formation should the medication be inadvertently continued into the perioperative period, and provides guidelines and recommendations on how to manage each class of drug prior to the placement of spinal/epidural blocks. (Best Pract Res Clin Anaesthesiol. 2005 Mar;19(1):47-58.)

**Comparison of 25-gauge, Quincke and Whitacre needles for postdural puncture headache in obstetric patients.**
Bano F, Haider S, Aftab S, Sultan ST.

RESULTS: Compared with the Whitacre group, frequency of postdural puncture headache was significantly higher in Quincke group (*p=0.015), while the overall occurrence of non-postdural puncture headache (NPDPH) did not differ significantly between two groups (p=0.736). Most of PDPH developed on 2nd postoperative day, were mild in nature and resolved within 48 hours of their onset. There was no significant difference in the failure rate of spinal anesthesia in both groups (p=0.149). CONCLUSION: It is suggested that use of 25-gauge Whitacre needle reduces the frequency of PDPH without increasing the failure rate of spinal anesthesia in obstetric patients. (J Coll Physicians Surg Pak. 2004 Nov;14(11):647-50.)

**Sevoflurane-induced malignant hyperthermia during cardiopulmonary bypass and moderate hypothermia.**
Jonassen AA, Petersen AJ, Mohr S, Andersson C, Skattum J, Kvernebo K, Paulsen OG, Stokland O, Kirkeboen KA.

A 56-year old man was admitted for elective mitral valve repair and coronary artery bypass surgery due to mitral valve leakage and unstable angina. After induction of anaesthesia he developed a combined metabolic and respiratory acidosis. Different diagnosis were considered and we decided to treat the patient with dantrolene due to suspicion of malignant hyperthermia (MH). The patient received one dose of dantrolene 2,5 mg/kg during cardiopulmonary bypass (CPB) and a second dose of dantrolene 2,5 mg/kg during weaning from CPB. The first arterial blood gas sample taken in the intensive care unit showed relapse of the acidosis and we administered an infusion of 150 mg dantrolene over 3 hours. The patient gradually recovered without sequel and MH was verified by muscle biopsy testing. (Acta Anaesthesiol Scand. 2004 Sep;48(8):1062-5)

**Adverse central nervous system sequelae after selective transforaminal block: the role of corticosteroids.**
Tiso RL, Cutler T, Catania JA, Whalen K.

RESULTS: In this patient, quadriparesis ensued shortly after injection of corticosteroid solution. The patient was admitted to the neurosurgical intensive care unit and ultimately underwent brainstem decompressive surgery when focal neurologic deficits became evident. Working diagnosis was massive cerebellar infarct. Light microscopic data are presented to illustrate particulate size in corticosteroid solutions and potential for embolic microvascular occlusion. Corticosteroid suspensions (and to a lesser extent solutions) contain large particles capable of occluding metarterioles and arterioles. CONCLUSIONS: We present a case of quadriparesis and brainstem herniation after selective cervical transforaminal block. We propose a potential role for corticosteroid particulate embo-

lus during unintended intra-arterial injection as a potential mechanism. (Spine J. 2004 Jul-Aug;4(4):468-74.)

**Comparison of caudal bupivacaine and bupivacaine-midazolam for peri and postoperative analgesia in children.**
Bano F, Haider S, Sultan ST.

RESULTS: The duration of analgesia was 21.41 +/- 2.7 hours in bupivacaine midazolam group and 9.97 +/- 2.25 hours in bupivacaine group, which showed a significant difference ($p < 0.001$). There was no significant difference in heart rate, respiratory rate, blood pressure and the incidence of side effects in both groups ($p = 0.716$). The sedation score were significantly higher in bupivacaine-midazolam group during first hour postoperatively (*$p = 0.003$). CONCLUSION: Addition of midazolam to caudal bupivacaine provides longer duration of postoperative analgesia without having significant side effects but with higher sedation score for 1 hour postoperatively. (J Coll Physicians Surg Pak. 2004 Feb;14(2):65-8)

**Clinical validation of FLACC: preverbal patient pain scale**
Manworren RC, Hynan LS

FINDINGS: Pre-analgesia FLACC scores were significantly higher than post-analgesic scores and significantly higher for patients who received opioids than patients who received non-opioids. Peak analgesia FLACC scores across analgesia groups were not significantly different and reflect effective pain relief for patients regardless of analgesic choice. CONCLUSIONS: The FLACC pain assessment tool is appropriate for preverbal children in pain from surgery, trauma, cancer, or other disease processes. The results support pediatric nurses' clinical judgment to determine analgesic choice rather than providing distinct FLACC scores to guide analgesic selection. (Pediatr Nurs. 2003 Mar-Apr;29(2):140-6)

**[Anaesthesia tomorrow. Looking to the future]**
Burmeister MA.

As in past and present times anaesthesiology will remain the central and original part in the spectrum of anaesthesiology, emergency, pain and intensive-care medicine also in the future. Nevertheless, profound changes will take place within the next few years promoting the anaesthesiologist to the manager of the perioperative workflow. Soft and hard skills like qualification in organisation, team-leading, costing and overall quality management will be mandatory. On the other hand, medical and scientific visions should also remain in scope. Improvements in selectivity of pharmacology and monitoring in anaesthesiology and reduction of perioperative morbidity should also be actively promoted. To provide independence from commercial goals of industrial companies and to enable developments from basic research up to evidence-based clinical applications, concentration of knowledge and financial resources in centres of excellence will be imperative. (Anasthesiol Intensivmed Notfallmed Schmerzther. 2003 Apr;38(4):255-60.

**Effects of sevoflurane and TIVA with propofol on middle ear pressure.**
Ozturk O, Demiraran Y, Ilce Z, Kocaman B, Guclu E, Karaman E.

RESULTS: Mean MEP values in 26 ears of 13 boys in group I did not show any significant difference before and after the anesthesia with propofol ($p > 0.05$). In group II mean MEP values in 24 ears of 12 boys showed a significant increase after the anesthesia with sevoflurane ($p < 0.001$). No significant difference was found between the MEP values of the two groups before the anesthesia ($p > 0.05$), and MEP values measured during the anesthesia were significantly higher in group II ($p = 0.007$). CONCLUSION: Sevoflurane may increase the middle ear pressure and TIVA with propofol may be used in middle ear operations more safely than sevoflurane. (Int J Pediatr Otorhinolaryngol. 2006 Feb 6; [Epub ahead of print])

**Comparison of ilioinguinal-iliohypogastric nerve block versus spinal anesthesia for inguinal herniorrhaphy.**
Yilmazlar A, Bilgel H, Donmez C, Guney A, Yilmazlar T, Tokat O.

RESULTS: There were statistically significant decreases in both mean arterial pressure and pulse rate in the SA group ($P < 0.001$). None of the patients in the IHNB group required recovery room care. Patients in the IHNB group initiated oral intake (0.31 +/- 0.1 h) more quickly than patients in the SA group (5.74 +/- 0.1 h) ($P < 0.001$). The time-to-home readiness was significantly lower (14.1 +/- 1.5h) in group IHNB, compared with group SA (42.8 +/- 5.3h) ($P < 0.001$). First rescue analgesic time postoperatively was 3.30 +/- 0.2 hours in group SA and 2.7 +/- 0.13 hours in group IHNB ($P < 0.05$). CONCLUSION: The use of IHNB for patients undergoing herniorrhaphy resulted in a shorter time-to-home readiness, quicker oral intake post surgery, and no need for recovery room care, when compared with the use of SA. (South Med J. 2006 Jan;99(1):48-51)

**The knowledge and perceptions of medical personnel relating to outcome after cardiac arrest.**
Jones K, Garg M, Bali D, Yang R, Compton S.

RESULTS: The overall response rate was 63%. Accurate in-hospital cardiac arrest estimates [% (95% CI)] of survival were provided by 51.1% (36.8-63.4%), 47.3% (35.9-58.7%), and 36.7% (23.2-50.2%) of students, residents, and attending physicians, respectively. Accurate out-of-hospital estimates of survival were provided by 51.1% (36.8-63.4%), 52.1% (40.6-63.5%), and 70.8% (57.9-83.7%), respectively. Most thought that family members of cardiac patients ought to be CPR trained (92.6%). However, few had referred any for training in the past year (16.5%). There was strong support across respondent groups for including death notification information in the ACLS training program, with 80.4% of all respondents in favor. CONCLUSIONS: This study demonstrates that medical experience is not associated with accurate estimates of cardiac arrest survival. Overwhelmingly, medical personnel believe family members should be trained to perform CPR, however, few refer family members

for CPR training. (Resuscitation. 2006 Jan 31; [Epub ahead of print])

**A new device producing manual sternal compression with thoracic constraint for cardiopulmonary resuscitation.**

Niemann JT, Rosborough JP, Kassabian L, Salami B.

RESULTS: Angiographic studies demonstrated cardiac compression as the mechanism of blood flow. Optimal performance, determined by coronary perfusion pressure, was observed at a sternal force of 100-130lb (45-59kg). In the comparative trial, significant differences in the measured CPP were observed between LifeBelttrade mark and manual CPR both at 1min (15+/-8mmHg versus 10+/-6mmHg, $p < 0.05$) and 5min (17+/-4mmHg versus 13+/-7mmHg, $p < 0.02$) of chest compression. A greater ($p < 0.05$) ETCO(2), a marker of cardiac output and systemic perfusion, was observed with LifeBelttrade mark CPR (20+/-7mmHg) than with manual CPR (15+/-5mmHg) at 1min. Peak Ao pressures were not different between methods. With the device, 86% of animals were resuscitated compared to 76% in the manual group. CONCLUSIONS: Blood flow with the LifeBelttrade mark device is primarily the result of cardiac compression. At a sternal force of 100-130lb (45-59kg), the device produces greater CPP than well-performed manual CPR during resuscitation from prolonged VF. (Resuscitation. 2006 Jan 31; [Epub ahead of print])

**Gastric emptying and intragastric balloon in obese patients.**

Bonazzi P, Petrelli MD, Lorenzini I, Peruzzi E, Nicolai A, Galeazzi R.

RESULTS: Mean weight loss was: 6.2 +/- 2.3 kg after one month; 12.4 +/- 5.8 kg after 3 months; 14.4 +/- 6.6 kg after 6 months and 10.1 +/- 4.3 kg two months after BIB removal. Gastric emptying rates were significantly decreased in the first periods with balloon in place, and returned to pre-implantation values after balloon removal. T1/2 was: 87 +/- 32 min before BIB positioning, 181 +/- 91 min after 1 month, 145 +/- 99 min after 3 months, 104 +/- 50 min after 6 months and 90 +/- 43 min 2 months after removal. T lag was 36 +/- 18 min before BIB positioning, 102 +/- 82 min after 1 month, 77 +/- 53 min after 3 months, 59 +/- 28 min after 6 months and 40 +/- 21 min. 2 months after removal. CONCLUSIONS: BIB in obese patients seems to be a good help in following the hypo caloric diet, especially during the first three months when the gastric emptying is slower and the sense of repletion is higher. After this period gastric emptying starts to return to normal and the stomach adapts to BIB loosing efficacy in weight loss. (Eur Rev Med Pharmacol Sci. 2005 Sep-Oct;9(5 Suppl 1):15-21.)

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**Comparison of airway management with the intubating laryngeal mask, laryngeal tube and CobraPLA by paramedical students in anaesthetized patients.**

Kurola J, Pere P, Niemi-Murola L, Silfvast T, Kairaluoma P, Rautoma P, Castren M.

RESULTS: Twenty-four of the 32 students (75%) successfully inserted ILMA at the first attempt, compared with 14 of 32 (44%) for LT and seven of 32 (22%) for COB ($P < 0.001$, ILMA vs. COB). One student failed to insert ILMA after all three attempts, compared with seven of 32 (21%) using LT and seven of 32 (21%) using COB (P = not significant). Oxygenation and ventilation parameters did not differ between the groups after successful insertion. CONCLUSION: Clinically inexperienced paramedical students can successfully use ILMA in anaesthetized patients. Further investigations are warranted to study whether ILMA or LT can replace ETI in emergency airway management when used by inexperienced medical or paramedical staff. (Acta Anaesthesiol Scand. 2006 Jan;50(1):40-4.)

**Prophylactic versus therapeutic administration of intravenous lidocaine for suppression of post-extubation cough following cataract surgery: a randomized double blind placebo controlled clinical trial.**

Saghaei M, Reisinejad A, Soltani H.

RESULTS: Proportions of patients with post-extubation cough were not significantly different in two prophylactic groups as revealed by 19 (20.7%) in lidocaine vs. 27 (28.7%) in placebo. The efficacy of prophylactic lidocaine for suppression of post-extubation cough was estimated to be 28.1%. Proportion of patients who were successfully treated in the second phase of the study was significantly higher in therapeutic lidocaine group 20 (80%) vs. 10 (38.5%) in placebo group ($P = 0.003$). CONCLUSIONS: The outcome of this study shows that prophylactic administration of lidocaine prior to tracheal extubation may be ineffective to prevent post-extubation cough. Based on the results of this study it can be recommended that

post-extubation cough should be treated upon occurrence instead of routine prophylactic administration of lidocaine. (Acta Anaesthesiol Taiwan. 2005 Dec;43(4):205-9)

**New method of sedation in oral surgery.**
Juodzbalys G, Giedraitis R, Machiulskiene V, Huys LW, Kubilius R.

Local anesthesia, the well-known method of sedation, usually is insufficient for dental implantation and the augmentation of the alveolar ridge, because the operations last for 1 to 2 hours and patients may experience fear and strain. This article examines a new complex sedation method using ketorolac, midazolam, and a local anesthetic 4% solution of articaine hydrochloride and epinephrine (Septanest) in combination with a vasoconstrictor. This method was applied to 67 patients operated on for dental implantation with screw implants or for the alveolar ridge augmentation with biocompatible materials. The control group, which consisted of 20 patients, received local anesthesia with articaine-epinephrine only. Most of the control patients were found to have experienced fear and strain during the aforementioned surgical procedures; their blood pressure and pulse rate increased, and more than half of them experienced pain. No disorders of hemodynamics or the psychoemotional status of the patients were observed during sedation with ketorolac, midazolam, and articaine-epinephrine. Furthermore, anterograde amnesia was determined for the 80% of the patients in the test group. (J Oral Implantol. 2005;31(6):304-8.)

**Foreign body aspiration through tracheotomy: a case report.**
Figueiredoi RR, Machado WS.

A 70 year-old man, with a 7-year tracheotomy because of a laryngeal tumor, had an accident during daily canula cleansing procedure, aspirating a piece of the cleaning brush. Chest radiograph showed metallic foreign body at the right inferior bronchus. Rigid bronchoscopy was performed under general anesthesia, with no resistance in passing the tube through the glottis. The foreign body was easily removed and the patient had no complications. After leaving the hospital, the patient was sent to the ENT service where he used to be followed up. (Rev Bras Otorrinolaringol (Engl Ed). 2005 Mar-Apr;71(2):234-6. Epub 2005 Aug 2.)

**Auditory Evoked Potentials (AEP) for the measurement of depth of anaesthesia.**
Alpiger S.

A new monitor for AEP measurement has been developed in Denmark (A-line AEP Monitor), which expresses the depth of anaesthesia by an index (A-Line ARX Index = AAI). Aim: To assess the precision of a prototype of the A-line AEP Monitor and to test the hypothesis that the depth of anaesthesia index shows a graded response with changing steady-state end-expiratory concentrations of sevoflurane. Furthermore we assessed the efficacy of the A-line AEP Monitor as a tool for predicting satisfying conditions for the insertion of a laryngeal mask airway and endotracheal intubation. Results: In study 1 it could be demonstrated that the prototype version provided satisfactory precision. The attenuation of the A-line ARX index for middle latency AEP during general anaesthesia was profound. However, the monitor did not show a graded response with changing end-expiratory steady-state concentrations of sevoflurane. Study 2 and 3 showed that A-Line ARX Index could indicate the level of depth of anaesthesia necessary for acceptable laryngeal mask insertion conditions and endotracheal intubation under general anaesthesia with sevoflurane. However, end-expiratory sevoflurane concentration predicted insertion conditions better than AAI and may turn out to be more useful in the clinical setting. (Dan Med Bull. 2005 Aug;52(3):115)