¿UTILIZAS CHECKLITS EN TU CLÍNICA? CÓMO SACARLES MÁS PROVECHO

(Checklists in Veterinary anesthesia - how to adopt, implement and use checklists)

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This session will present the benefits of perioperative checklists and describe their adoption and use for your practice. The World Health Organisation Surgical Safety Checklist (WHO SSC) will be used as the prototypical model for discussion.

The WHO SSC is the best known and most widely adopted preoperative checklist in use. In a landmark international observational study involving 8 hospitals in 8 countries, prospective data collected before and after implementation of the SSC showed a reduction in mortality and surgical infection from 1.5 to 0.8% and 6.2 to 3.4%, respectively (Haynes et al., 2009). These findings have been repeated, with a recent meta-analysis supportive of the benefits of the using the WHO SSC (Bergs et al., 2014). In addition to reductions in morbidity and mortality, the WHO SSC has resulted in cost savings, improved communication and improved safety climate (Haynes et al., 2009, Haynes et al., 2011, Kearns et al., 2011, Semel et al., 2010). Checklists do not need to be complicated to be effective. Simply packaging proven evidence-based practice in to a checklist can have a profoundly beneficial effect. Pronovost et al. (2006) reduced catheter infections by over 50% based on 5 procedures: hand washing, protective barriers, cleaning the insertion site, avoiding dirtier sites and removing unnecessary catheters. Similarly, the WHO SSC comprises of 3 short sections (before induction of anaesthesia, before skin incision, before patient leaves operating room), each taking less than a minute to complete.

Adoption of checklists

There is a mistaken belief that checklists should be adopted blindly and forced to fit the local system. In contrast, successful implementation relies on maintaining the core structure while adapting the checklist to the local environment (Anthes 2015, WHO SSC 2009). In a landmark study, in which central catheter infections were reduced by over 50%, the local adaptation of the original checklist has been described as a key feature of its success: “They were 95% the same, but that 5% [difference] made it work for them...Every one of these hospitals thought theirs was the best.” (Anthes 2015). The WHO SSC Implementation Manual is very clear in its guidance that “Different practice settings should adapt [the WHO SSC] to their own circumstances.” (WHO SSC 2009). The WHO SSC implementation guide goes as far as including a section specifically addressing how to modify the checklist in such a way as to promote success (WHO SSC 2009). This includes keeping it focused on the most important issues, keeping it practical (< 1 minute to complete), associating each checklist item with a response/task, promoting communication by relying on a verbal process, promoting checklist ownership by encouraging input from stakeholders and testing the application of the checklist in a small group before expanding to the hospital (WHO SSC 2009).

Implementation of checklists

The likelihood of successful checklist implementation (and benefiting from their use) has been linked to 1. support from the administration and department/service chiefs and 2. the role of local leaders in driving implementation (Armitage-Chan, 2014, Conley et al. 2011). Ideally, these local leaders should represent the different relevant disciplines involved in patient care. Without this local championing, checklist use has been associated with frustration, disinterest and eventual abandonment even when the organisation has mandated their use (Conley et al. 2011). It is proposed that a team of interested individuals be formed to begin applying the checklist, including modifying it as necessary. Similarly, adoption should begin small, solving initial implementation problems before expanding it across a clinic. It may also be helpful to identify a checklist coordinator, a person who is responsible for ensuring that the checklist is used and completed. This person should be able to work well with other members of the team but has the power to stop the procedure progressing until the checklist is complete or an identified deficit is addressed. Finally, the WHO encourages auditing of outcomes (e.g. surgical complications) to track performance and identify growing problems (see audit lecture). When checklists are poorly adopted or implemented, failure may occur. In interviewing over 100 OR staff, it was revealed that surgeons and anaesthetists were often reluctant to implement checklists (Russ et al. 2015). This lack of support from local leaders will inhibit successful checklist

implementation, blocking their benefits. The checklist must apply to local conditions and adapted if it does not (Anthes 2015, Russ et al. 2015).

In veterinary medicine, there are few studies on the application or use of checklists (Hofmeister et al., 2014, McMillan, 2014, Menoud et al., 2018). Menoud et al. (2018) used a consensus discussion amongst veterinary anaesthetists to develop a checklist based on the WHO SSC. Initial development was followed by a period of testing and modification by a multidisciplinary team. During two subsequent evaluation periods (3 weeks each, approximately 60-70 anaesthetic cases directly observed), the checklist was used in 32% and 45% of cases, respectively. These results show the potential difficulties faced when introducing a checklist, including resistance to change, concerns regarding usefulness and relevance, and the time required to complete a checklist (Menoud et al., 2018).

While anaesthetists are very familiar with the pre-anaesthetic checkout procedure, the checklist used to verify anaesthetic equipment, they may be less aware of the use of checklists to manage critical situations. In a surgical simulation study (17 teams, 106 scenarios), the use of checklists was associated with improved management of crises (approximately 20% of management steps were missed without a checklist compared to only 5% when a checklist was used) (Arriaga et al. 2013). Checklists may be focused on specific complications e.g. anaphylaxis, haemorrhage and hypoxia or they may take the form of a more generic cognitive aid (includes checklist, mnemonic and algorithm) for use in narrowing down the list of differentials following initial identification of a problem or for performing systematically as part of routine surveillance (Ariadne Labs, Runciman and Merry, 2005). An example of a generic cognitive aid that has been adapted for veterinary anaesthesia is the COVER ABCD - A SWIFT CHECK (Table) (Ludders and McMillan 2017, Pang 2020, Runciman and Merry, 2005). The approaches described above for adoption, adaptation and implementation of the WHO SSC would apply equally when considering these other checklists/cognitive aids.

C	Circulation, Capnograph and Color (saturation)
O	Oxygen supply and Oxygen analyzer
V	Ventilation (intubated patient) and Vaporizers
E	Endotracheal tube and Eliminate machine
R	Review monitors and Review equipment
A	Airway (with face or laryngeal mask)
B	Breathing (with spontaneous ventilation)
C	Circulation (in more detail than above)
D	Drugs (consider all given or not given)
A	Be Aware[1] of Air[2] and Allergy
SWIFT CHECK	of patient, surgeon, process, and responses

Table: The COVER ABCD - A SWIFT CHECK cognitive aid. [1]Aware refers to potential for awakening and [2]Air refers to the presence of gas emboli. (Pang 2020).

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