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## IAAS
International Association for Ambulatory Surgery

ASECMA forma parte de la IAAS (International Association for Ambulatory Surgery).
Se puede consultar todas las sociedades pertenecientes a la IAAS en la web http://www.iaas-med.com/

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EDITORIAL

# Patient safety: how information technology can support

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Over the last decade industry has increasingly recognised the importance of using technology to reduce risk and promote safety. Both the nuclear and aviation industries have improved safety to high levels by recognising the need to consider human factors, recognising that we are prone to mistakes and so looking at the design of the process is important (1-3).

It is important to remember that it is extremely difficult managing patients in a complex area e.g. theatres or a ward when lots of distractions are occurring and that the absence of a reported problem does not mean that we are working in a safe organisation.

How often in your hospital do you hear that there is a need: a) to stress the importance of handover, following someone missing an ill patient, b) for educating staff about use of handgel, following a recent cross contamination and c) for educating staff about early warning scores, following a patient deteriorating unnoticed.

In any system or process reliance on human barriers is seen as the lowest form of mitigation for any given risk and this is borne out by experience. The reliability (and hence safety) of organisations can be classified on 3 levels:

- *Level 1:* work on training, vigilance and hard work – errors are seen as being due to not following the guidelines/protocols and so the organisation pushes training harder. However there is a ceiling on human performance. These work at a success rate of around 90 % (i.e. 1 error in every 10 interactions).
- *Level 2:* design their processes informed by reliability science and research in human factors. Use of decision aids, checklists, constraints making it easy to do the right thing. These work at a success rate approaching 99 % (i.e. 1 error in every 100 interactions).
- *Level 3:* do above but create process that highlights wrong decisions early – make failures visible. They attempt to build in mitigation i.e. systems to prevent harm even when failure occurs. These work at a success rate of 99.9% (i.e. 1 error in every 1000 interactions).

Most healthcare organisations are at level 1 though some are now operating at level 2. However we should strive to be level 3 where our processes are highly reliable and failures are clearly visible.

It is sobering to look at the probability of any given patients chances of experiencing an error in their care linked to the number of interactions (Table I). If most of our hospitals are operating at 90-95 % success rate then over a typical day case patient pathway of care with 25 interactions then it is very likely that the patient will experience a process that fails. It must be remembered that this does not automatically mean that the patient comes to harm, however the more occasions we fail then the more opportunities there are for a serious harmful event.

TABLE I

PROBABILITY OF SUCCESS OVER MULTIPLE INTERACTIONS

| | | PROBABILITY OF SUCCESS | | |
|---|---|---|---|---|
| | | 0.95 | 0.99 | 0.999 |
| Number of interactions | 1 | 0.95 | 0.99 | 0.999 |
| | 25 | 0.28 | 0.78 | 0.975 |
| | 40 | 0.12 | 0.66 | 0.96 |
| | 100 | 0.006 | 0.37 | 0.9 |

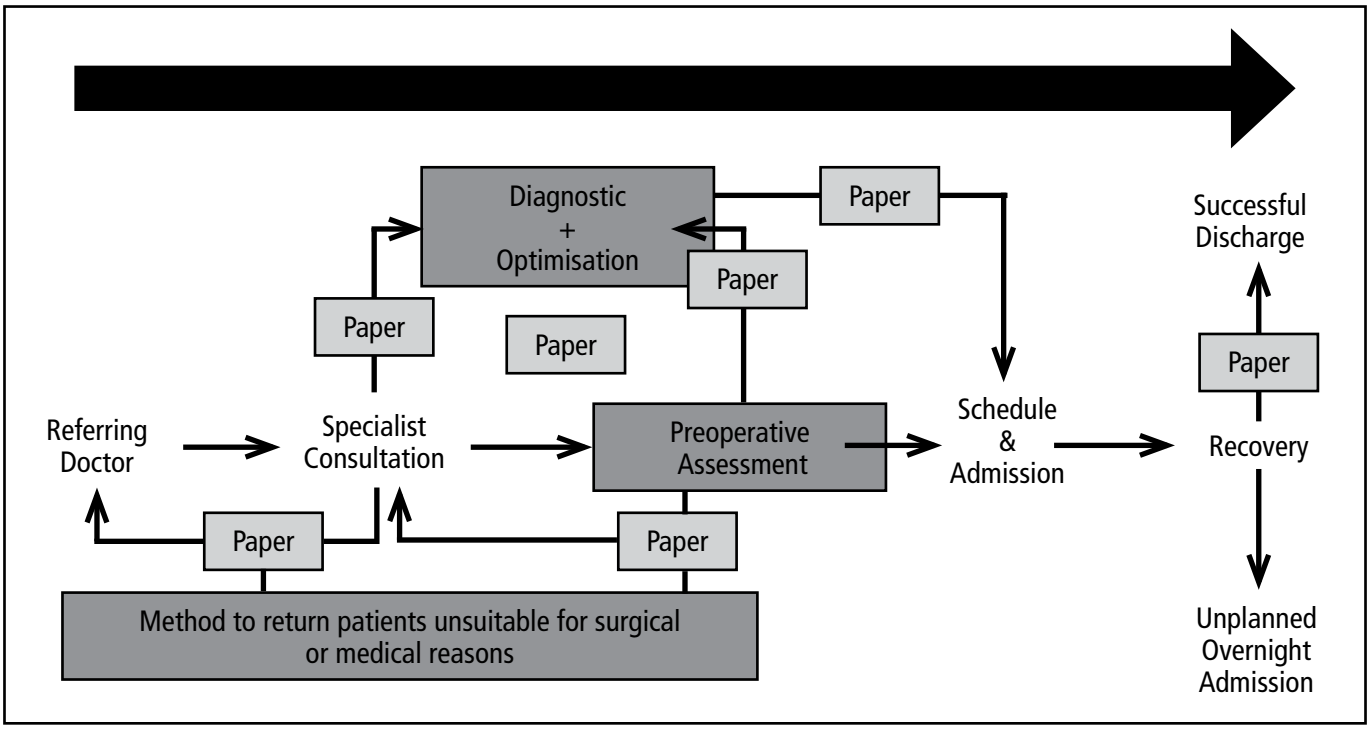


*Fig. 1. Patient pathway through day surgery.*

The patient pathway through day surgery has many interactions and what are termed as hand-offs where care passes from one group to another. These are particularly important areas for patient safety and in many hospitals these depend on transfer of information by paper (Fig. 1).

These are areas that can fail for a myriad of reasons e.g. due to the paper being lost and not reaching the correct recipient or the expected recipient being on leave and so it does not get actioned. In York one area where this was a particular problem was in the preoperative assessment service. In the UK these are typically run by trained nursing staff who then refers any problems they find to a designated anaesthetist. Our problem was that this was done either by forwarding a copy of the assessment to a particular anaesthetist in the internal mail or by depending on a colleague to review a collection of issues kept in a 'difficult patient' box. This meant that if key individuals were ill or on holiday then the review did not take place or was delayed, sometimes making it too late to change something for the patient and so resulting in their operation being cancelled. This added risks as often there was pressure to proceed with surgery when there were issues that should have been managed preoperatively.

## NEW WAY FORWARD

We worked with our IT development team in designing an electronic preoperative assessment system as part of our Electronic Patient Record (EPR). Having completed this process we considered how to improve the communication between anaesthetists and the preoperative assessment staff with the aim of removing paper and so increasing patient safety. The concept of shared electronic worklists was developed where patient names are inserted if the assessment nurse clicks a referral box. As part of this referral process they provide information as to why they consider the patient needs anaesthetic review. The system has been set up to automatically refer certain patient groups to the anaesthetic department, examples include patients with history of malignant hyperpyrexia or aortic stenosis.

The anaesthetist can review each patient on the worklist from anywhere in the hospital and as it is part of our EPR this includes the ability to quickly review all letters, tests and radiology, including the ability to directly view X-rays for that patient. With this the anaesthetist can make a decision as to the management required for that patient. For simple patients this is merely the anaesthetist completing the review and inputting that the patient is ok to proceed to surgery. However for more complex patients the next stage was to allow communication back to the preoperative assessment staff so they also have a worklist, when the anaesthetist has reviewed the patients assessment online they can input free text as to what they want to happen next e.g. make appointment for patient to come to see the anaesthetist, arrange a further test and this appears on the preoperative assessment staff worklist for action.

This process has now removed the need for paper and so reduced the risks involved in managing patients through the process. The worklist is a shared responsibility within the anaesthetic department – it is easily visible and so staff can keep an eye on it. This removes the risk linked to dependence on single individuals.

The next stage was to improve the notification of anaesthetic colleagues about problem patients on their theatre lists. The preoperative assessments are readily available for review from our theatre system but we decided that the creation of an alert system so that 'problem patients' were highlighted on the electronic theatre list would further improve communication and patient safety. The theatre system was refined so that any patient that has been found to have an issue that might affect their anaesthetic is shown in a red font when viewed on the theatre screens. This alert is triggered either by the preoperative assessment staff – or more usually by consultant colleagues who have reviewed the patients assessment. Again there is the opportunity to enter free text to explain what you did with the patient and why you feel they are fit for surgery and what the remaining issues are.

This alert system removed what had been a haphazard paper trail and made the fact that if there is an issue with any patient then this is visible to all staff in theatre so that the issues can be discussed at the prelist briefing.

The aim of this article was to give colleagues an insight into some of the design features we have used in an effort to improve patient safety.

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EDITORIAL

# Cirugía mayor ambulatoria: dónde estamos y a dónde vamos

## Present and future of Day Surgery

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Recoger el testigo del I Congreso Ibérico de Cirugía Mayor Ambulatoria para organizar el XI Congreso Nacional de la Asociación Española de Cirugía Mayor Ambulatoria y II Congreso Ibérico supone para nosotros una gran responsabilidad.

La calidad del último congreso, celebrado en 2012 en Braga, nos dejaba el listón muy alto, pero nos abría de par en par la puerta de la internacionalización de nuestra cirugía ambulatoria, de modo que el futuro nos llevará indefectiblemente unidos a nuestros colegas portugueses de la mano ASECMA y APCA. Nos une la proximidad geográfica de ambos países y nuestra similitud intelectual y cultural. La presencia y participación, más que activa, de nuestros colegas portugueses nos va a permitir caminar juntos y ganar relevancia e importancia en Europa. La colaboración futura entre centros de ambos países será la consecuencia lógica. Esta unión se ha manifestado ya en el proceso organizativo, donde hemos participado activamente representantes de ambas organizaciones.

Santiago de Compostela es un marco centenario e incomparable: centenaria es su Universidad, incomparables su catedral y su casco histórico, centros globales de peregrinación y turismo, incomparable también es la Ciudad de la Cultura de Galicia, obra de Peter Einsenman, una de las construcciones más novedosas, osadas y vanguardistas del panorama arquitectónico mundial.

En nuestra ciudad se une lo antiguo y lo nuevo. Lo histórico y lo futurista. Nuestro congreso tenía necesariamente que reflejar este planteamiento.

La sede oficial del Congreso será la Ciudad de la Cultura de Galicia. La cena oficial se desarrollará en el marco incomparable que es el Hostal dos Reis Católicos, con vistas inmejorables de la Catedral y de la imponente Praza do Obradoiro.

Acorde con este marco es el programa del Congreso. Nuestro lema "Dónde estamos y a dónde vamos" no podía formularse más que en Santiago, destino final del Camino que lleva su nombre. El programa en muy dinámico y actual con cuatro áreas básicas: enfermería, calidad, cirugía y anestesia.

Hablar hoy de la importancia de la cirugía mayor ambulatoria en la gestión sanitaria de los hospitales es casi innecesario. Indicadores como la tasa de ambulatorización nos dicen mucho del nivel de funcionamiento global de un centro hospitalario y del sistema sanitario en general. Agilidad, gestión, ahorro, calidad, protocolización, seguridad, etc., son conceptos inexorablemente unidos a la CMA, que en tiempos de crisis cobran, si cabe, mayor importancia.

Veremos en el congreso cómo la cartera de procesos realizables en régimen de cirugía ambulatoria está en continua evolución y se han incorporado ya, en el ámbito de la cirugía general, la colecistectomía laparoscópica y la tiroidectomía, y no de forma testimonial, sino masivamente. La selección de los pacientes y la implicación de atención primaria y del personal de enfermería son claves para el éxito de los programas. Conceptos como "walking hospital" y "vía azul" nos llevarán de nuevo a confirmar que la sanidad está orientada al paciente.

Seguro que habrá un antes y un después tras esta reunión. Confiamos en que vuestra participación activa en él, con espíritu crítico, sirva a los fines de ambas sociedades científicas (ASECMA y APCA). Confiamos en que las conclusiones serán de gran utilidad para vuestros ámbitos de trabajo y nos ayudarán a mejorar la eficiencia de nuestro sistema sanitario.