

Basic concepts of risk management and risk assessment applied to reproduction laboratories

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Problem statement. Just like other industries, activities in reproductive endocrinology (RE) and Infertility-ART (REI-ART) are exposed to various professional risks, some of them dreadful. Yet medicine in general and REI-ART in particular are ill prepared for dealing with the issues of risk and risk mitigation through an astute deployments of targeted defenses. These deficiencies stem in part from medicine not adequately distinguishing the high-end academic education from its necessary counterpart, professional training. The latter evidently needs to incorporate the fundamentals in risk and safety management (RSM). Obscured by the brilliance of ever more startling achievements in academic medicine, professional training has lagged behind, leaving formal RSM training too often insufficient if not inexistent. The RSM deficiencies in medicine cause far too many errors, having crippling personal and financial consequences.

Identify hazards, risks and adverse events (AE). **Hazards** are conditions inherent to any practical activity – i.e. height in mountain climbing. **Risks** are the possibility that **AE** (i.e. bleeding as a result of surgery) result from such risks. Each risk and AE – they are several categories in REI-ART – must be analyzed and known.

From aviation to medicine: where the buck stops? Aviation is an unchallenged leader in RSM. Yet lessons of aviation must be adjusted when transferred to medicine because of two primary differences: (i) efficacy is taken for granted in aviation, not in medicine and; (ii) the indication for traveling is not questioned, whereas that for undertaking surgery is.

Medical errors: Root-cause analysis and reporting. Finger pointing is an outdated and not effective mode of dealing with errors. Indeed, most errors result from system deficiencies that need to be identified and addressed. Formalized error reporting is crucial in RSM.

Understand, choose and position effective defenses. Defenses are aimed at preventing AE. If too complex, defenses may harm (i.e.: “killed by their defenses”; “let’s write another procedure”; etc.). If simple and efficient, certain defenses may increase risk exposure (the “Davy Lamp” effect). Defenses have to be astutely and knowingly chosen.

RSM in REI-ART training. For being effective, RSM has to penetrate the professional culture. Practically, this requires re-thinking REI-ART training with a “safety-inside” spirit. Novel teaching tools – possibly inspired from aviation – are needed for enlivening these needed changes in training and enact new rapid and generalized returns on experience.