



An Integrated Approach to Overarching Risk Assessments

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WHAT MAKES SOME RISKS

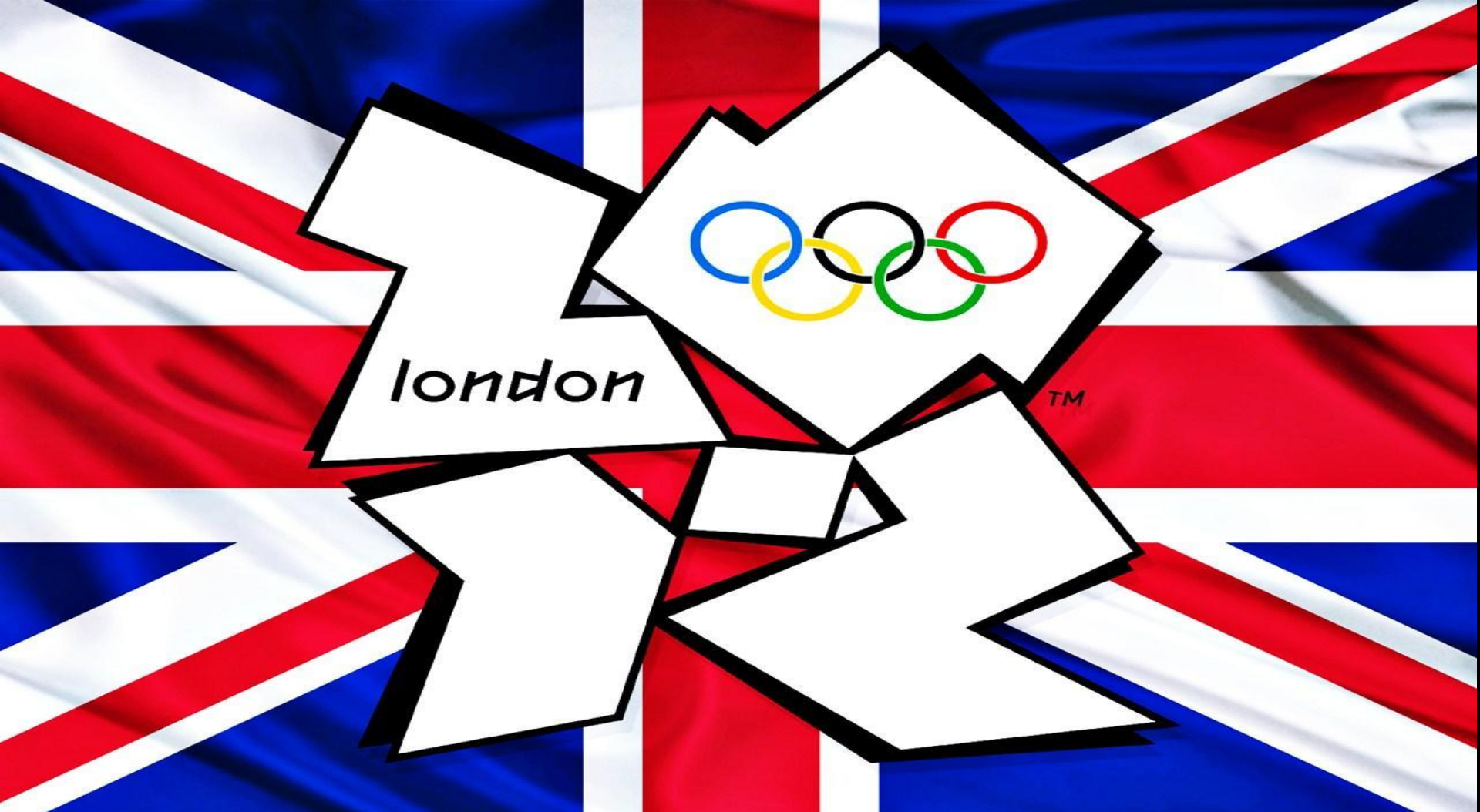


MORE ATTRACTIVE THAN OTHERS



- Voluntary vs imposed
- Individual vs government control
- Exotic vs familiar risks





Reference: Harvard Business Review, August 2012, Will Jennings

"...risk is often organizational in its origins"



There is no discovery without risk....

Author: Jeanette Winterson

RISK

ANALYSIS

LOW

MEDIUM

HIGH

VERY HIGH

EXTREME

Evolution of risk assessment



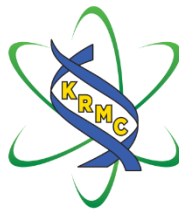
1950 bacteria lab



How does Risk perception
shape our views as Biosafety
Specialists?



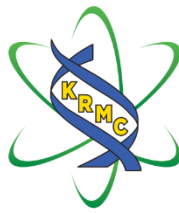
BIOHAZARD - STAY OUT



Risk Assessment

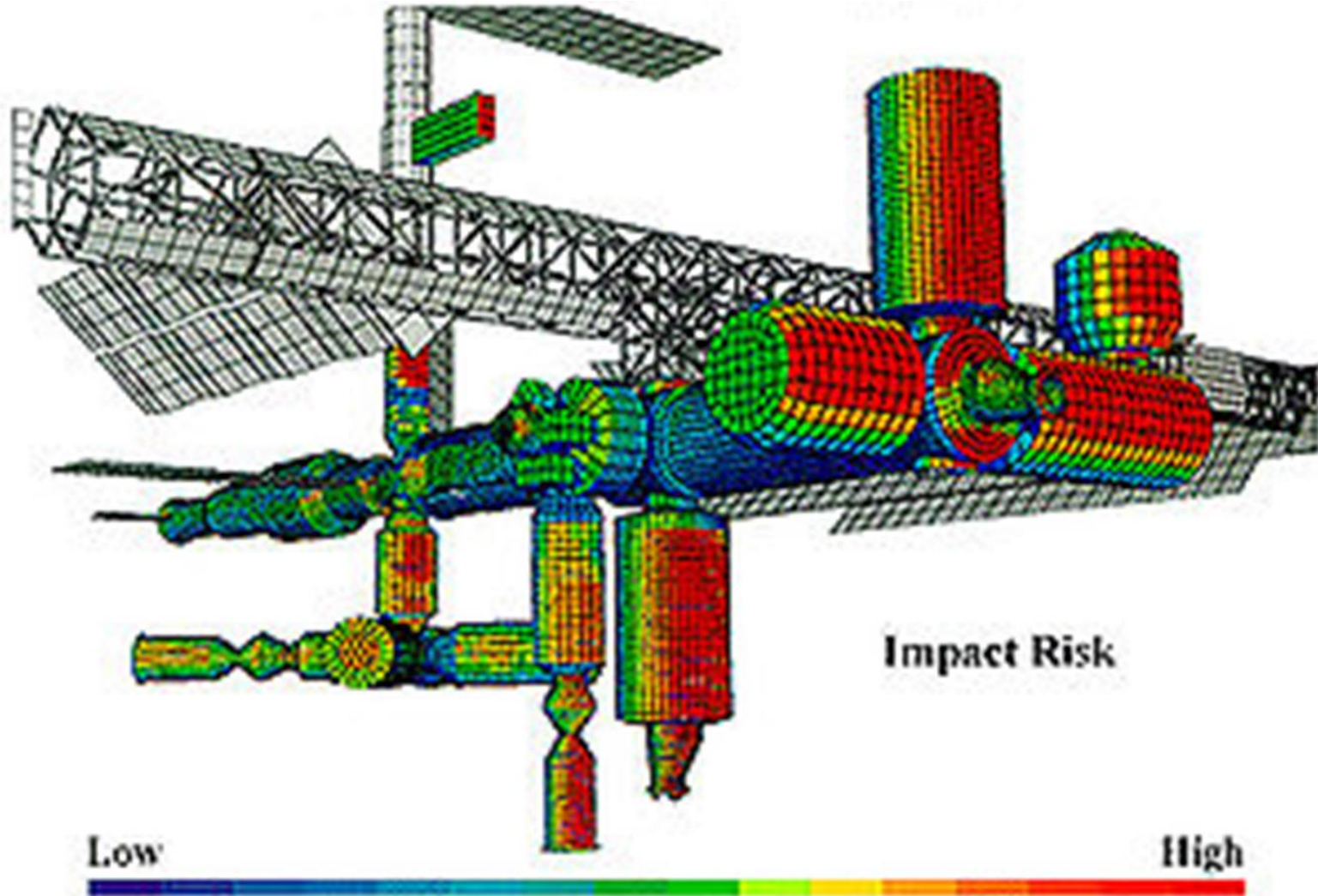
- pathogenicity and infectivity
- infectious dose
- route of infection
- mode of transmission

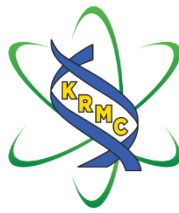




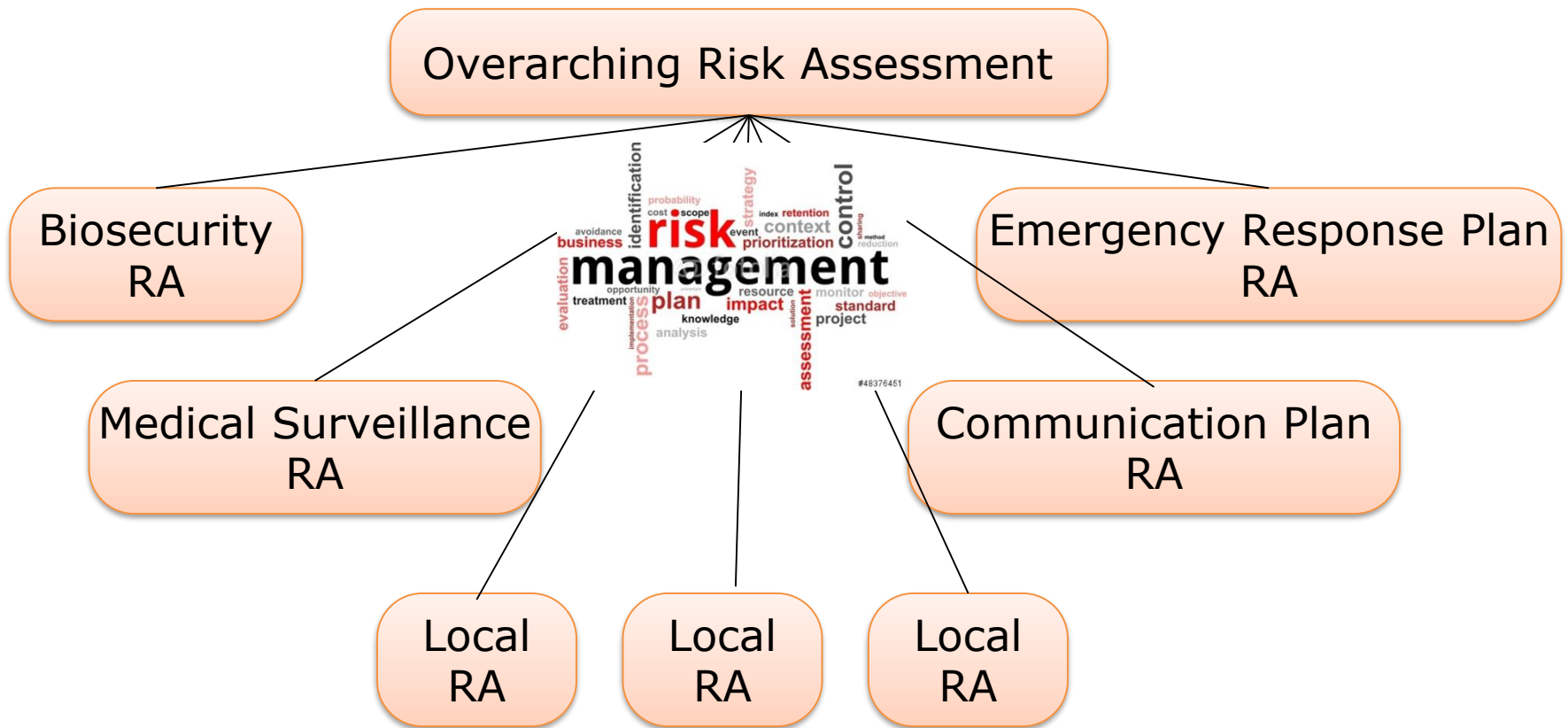
International Space Station

probability of impact from debris > 1 cm





Biosafety Program – do we account for every 1 cm that hits “our space station?”



Examine specific elements of biosafety program

PAO

(Plan of Administrative Oversight)



PAO

PHAC comments – Section 4



4. Overview of how biosafety and biosecurity risks, including those from research with dual-use potential, are identified at the institution/organization.

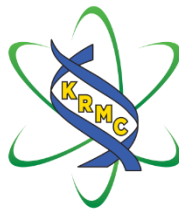
- Incomplete
- Needs Improvement
- Minor Clarifications
- Meets Expectations

4.1 Explanation of how risks are identified (mechanisms used) and who is involved at various levels (i.e., personnel and committees)

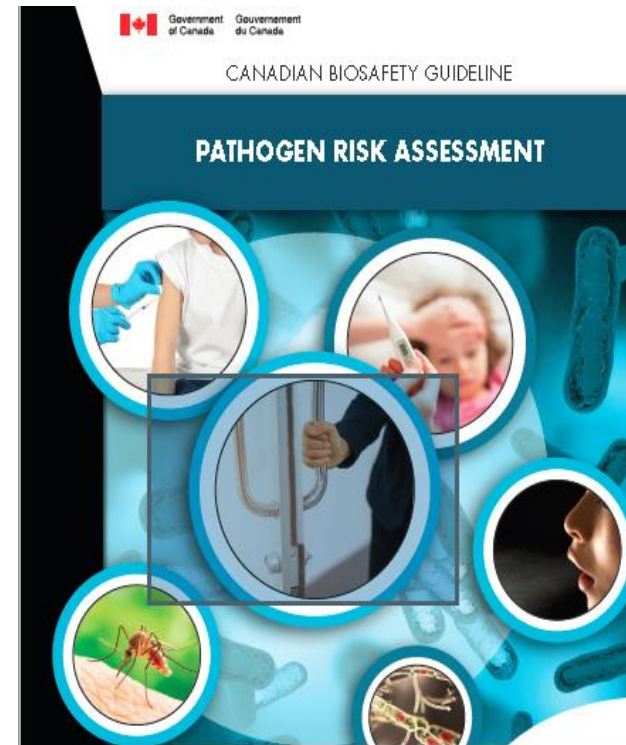
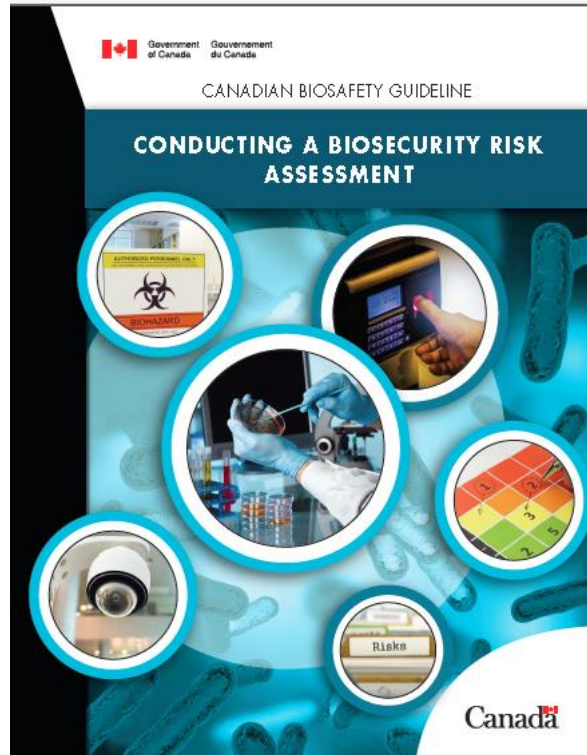
Clarifications required:

Provide a brief explanation of how overarching and biosecurity risks are identified, including the mechanisms used and who is involved *at various levels*.

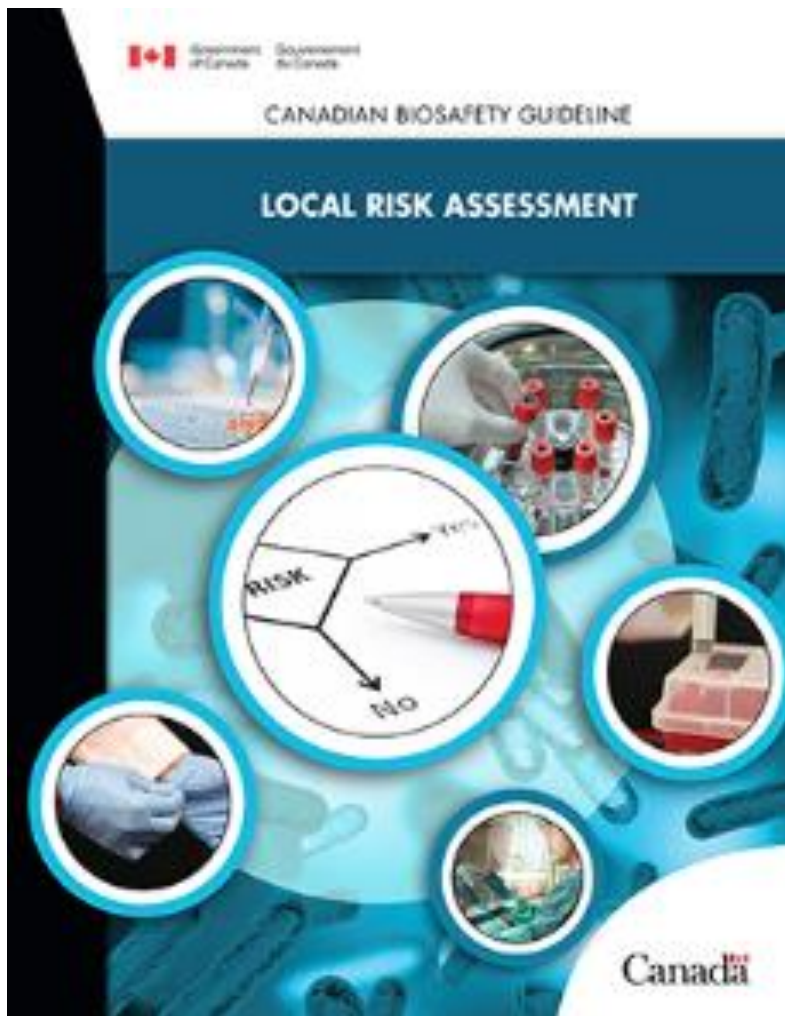
These terms are defined and can be accessed [Canadian Biosafety Handbook, 2nd Ed, 2016](#).



Risk Assessment - CBG



Guideline: Local Risk Assessment



CANADIAN BIOSAFETY GUIDELINE LOCAL RISK ASSESSMENT

2.3 Overarching Risk Assessment



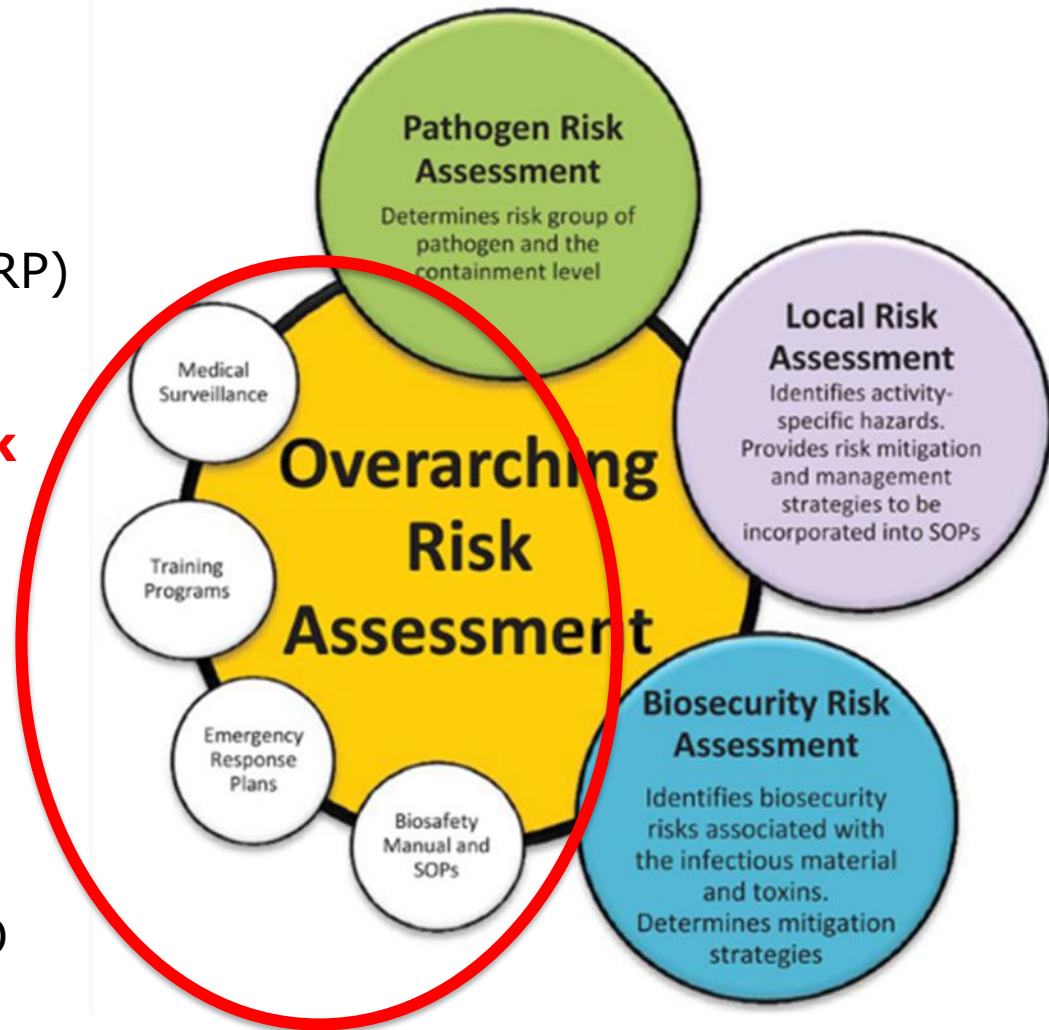
Components of Comprehensive ORA

Source: *Local Risk Assessment Fig 2.1*

Development of:

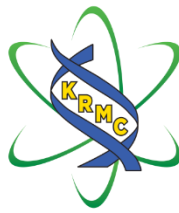
- medical surveillance
- training programs
- emergency response plans (ERP)
- SOPs

based on the overarching risk assessment.



Usually led by BSO

Can Biosafety Guideline: Section 2.3 ORA



- at the *organization or facility level*,
- informs the development of the biosafety program as a whole



BIOWORLD
CANADA

Biosafety Guideline: Section 2.3 ORA



- helps identify the key biosafety issues at the program level
- opportunity to assign resources (e.g., people, time, funding) where they are needed
- So who does this????
- Assign of resources?





RISK
Management

Control

Mitigate

Reduce

Avoid

Transfer

Accept

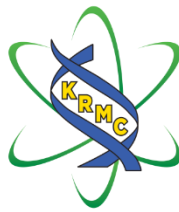
Strategy



1. Risk Team

2. Biosafety Champion

Asking the BSO to do a ORA using integrated approach

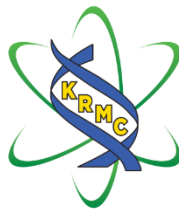


“You Want me to do What?”

key concepts to RA universally applied to each type of risk assessment



follows the same principles as those found to address hazards or risks in most occupational health and safety programs



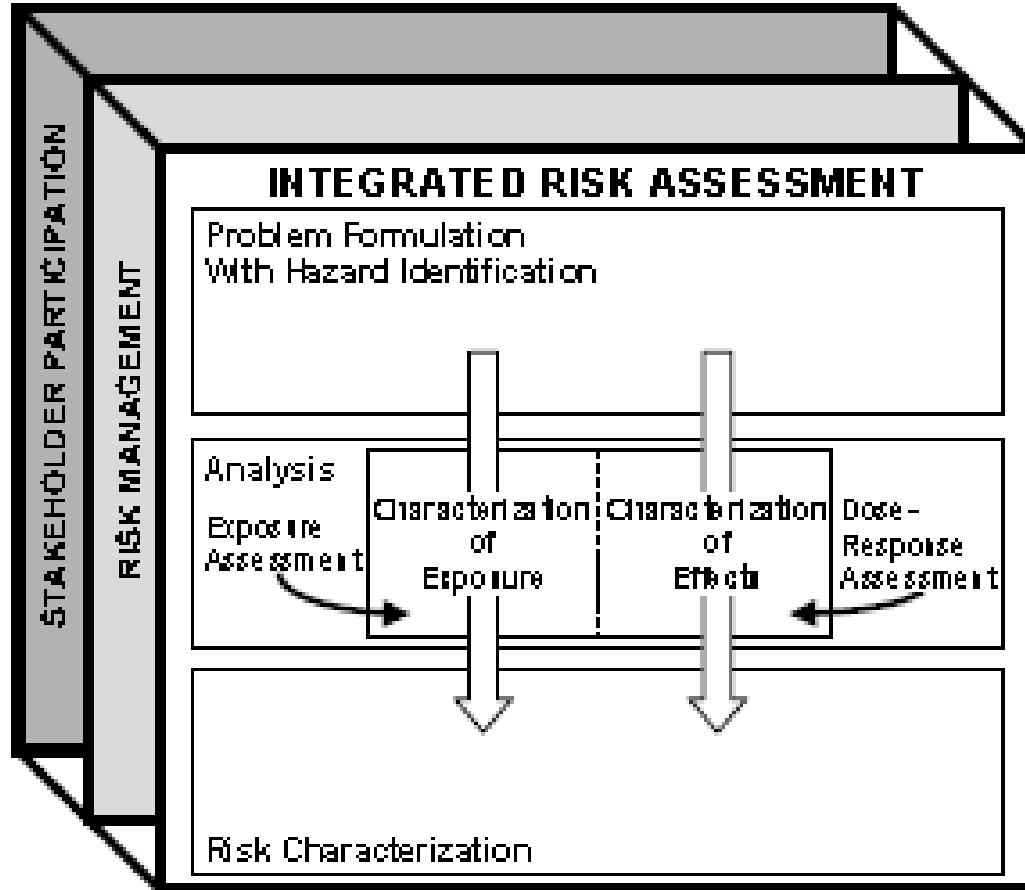
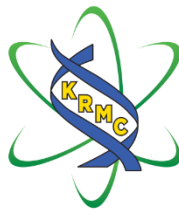
Communicating across Fields

2018 15th CDC International Symposium on Biosafety:
Biosafety in the Era of One Health



15th CDC International Symposium on Biosafety
Biosafety in the Era of One Health
February 10-14, 2018 | Atlanta, GA

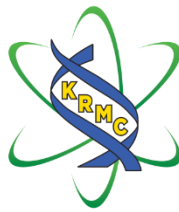
Integrated Risk Assessment



1. Stakeholder participation
2. Risk management
3. Integrated Risk Assessment

Source: WHO Integrated risk Assessment

http://www.who.int/ipcs/methods/risk_assessment/en/

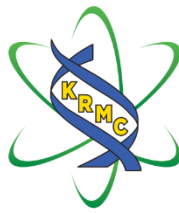


Building the ORA Team

Why Support Institutional ORA

1. Enabling operations/research to continue
2. Using available resources
3. Building the team to be able for cross functionality to support other functions
4. Maintaining a robust H&S system
5. Attempt to achieve consistency in institutional risk assessment



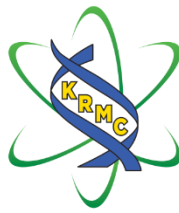


Building The Risk Team

- ORA provides a TOP DOWN view
- Building team dependent on extent of ORA
- Membership can be fluid and dynamic



Building the Risk Team



Facilities and Services (esp during facility renovation or new build)

EHS Office members: Occupational Hygienists, Chemical Safety

Dept reps

Security

Risk Department

Emerg Mngt Office

Medical

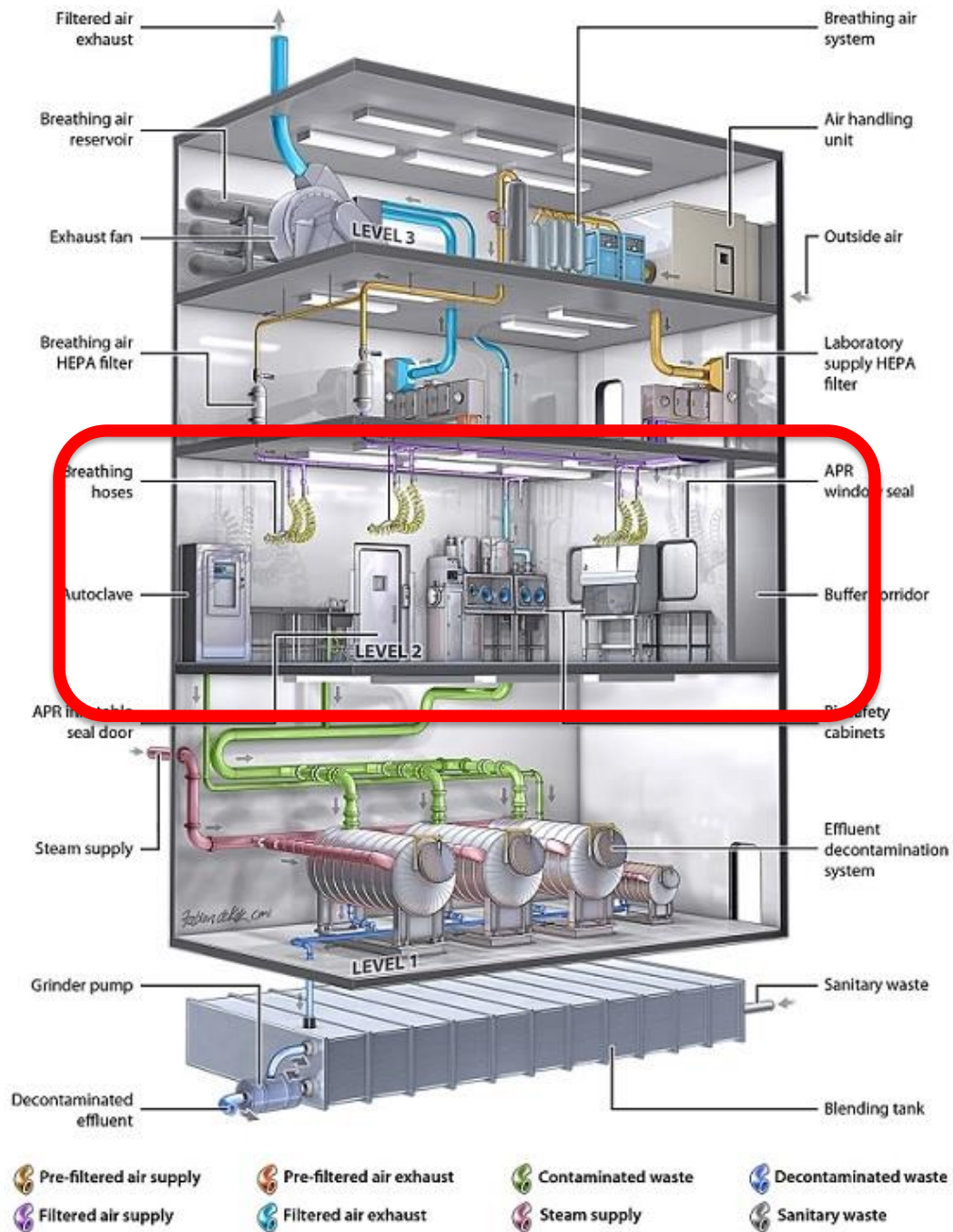
Finance

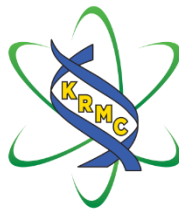
Research Office (ie grants)





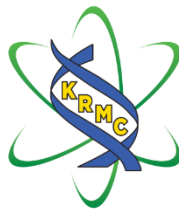
LEVEL 2





Example 1 Engineering

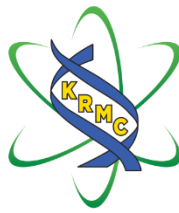




Example 2 –Liquid Nitrogen: Storage of samples

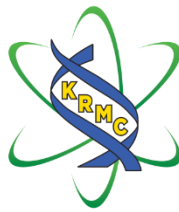


From a single cryo vial to pumps, valves, tanks

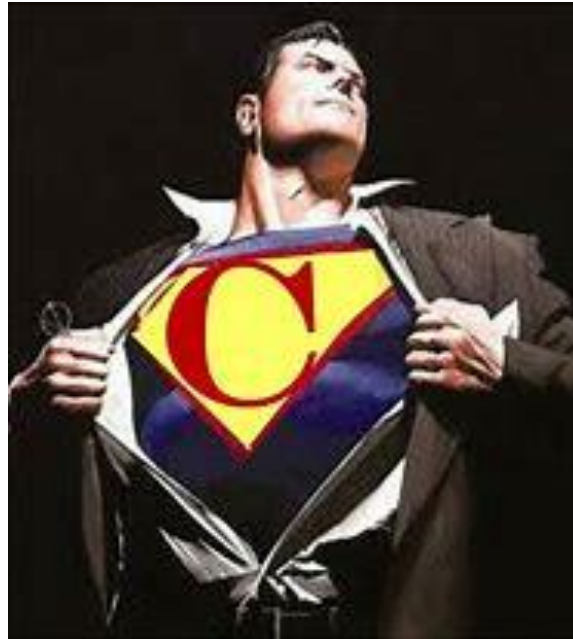


Example 3– Health & Safety - PPE

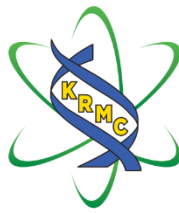




Getting the Biosafety Champion



- ❑ Senior researcher (well respected with colleagues)
- ❑ Senior administration (At Senior Director or VP)
 - VP Research – may work if access to other risk depts
- ❑ Facilities, Senior Mngt with other risk departments



Biosafety Champion Integration Benefits



- 1) better ID of key research requirements
- 2) target shared needs
- 3) using integration, decision based more on similar risk models and data
- 4) similar risks facilitates comparison between requirements



Canada

Summary



Integration of Risk assessment in Biosafety using broad based risk team

Biosafety Champion to mentor BS program



A close-up, high-angle photograph of a person's face, focusing on their eyes and nose. They are wearing large, black-rimmed glasses. The person's eyes are light brown and looking slightly to the right. The lighting is warm and soft, highlighting the texture of the skin and the frames of the glasses. The text is centered over the lenses of the glasses.

**Risky Business:
Integrated approach to overarching
risk assessments**

SYMBOL FOR RADIOACTIVE HIGH-VOLTAGE LASER-EMITTING BIOHAZARDS THAT COAT THE FLOOR AND MAKE IT SLIPPERY.





Thank you for your attention



"I'D LIKE TO INTRODUCE OUR NEW"
CONSULTANT ON RISK MANAGEMENT!"



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