Session 2.1
Tissue Grafting for Human Health: Case of Peru

Ms Susana Petrick C.
Instituto Peruano de Energía Nuclear (IPEN), Lima, Peru
The Challenge

- Each year 15,000 children require medical treatment for burns due to accidents.
- The Health Children National Institute (INSN) receives 3,000 patients per year.
- About 400 infants, out of 800 remaining hospitalized in the INSN, need surgical procedures.
- In the last 10 years, a few workers got injured by radiation when using industrial gamma radiography. They were treated with stem cells in France and Brazil.
National Effort

• 1995 - IPEN and the National Institute for the Children’s Health (INSN) started a joint effort to promote a Tissue Bank.

• 2013 - the First National Tissue Bank in Peru starts at the INSN, with the production of lyophilized amniotic membrane, pig skin and bone allografts.

• Stakeholders:
  – Ministry of Health
  – Health Children National Institute
  – IPEN
  – National Organization for Donation and Transplant

• 2014 - Several new techniques were introduced in the concept of Tissue Banks in Peru, mesenchymal stem cell culture and skin culture are the most promising
IAEA Support

• Raising awareness of the relevance of tissue grafts and the need for human capacity building

• Capacity building for lab infrastructure which enabled the introduction of tissue engineering methods for regenerative medicine: mesenchymal stem cells, artificial skin and irradiated tissues grafts.

• Support for the introduction of quality assurance in the procedures for the radio-sterilization of tissues

• Support for Consolidating Tissue Banks in Latin America and Radiation Sterilization of Tissue Allografts, as well as a network for Tissue Banks in the region

• Capacity building in radio-sterilization of biological tissues
Results

• Very positive outcomes in patient recovery
• All steps for tissue grafting identified (tissue procurement, tissue or cell treatment, distribution and grafting).
• Steps started for:
  – Implementation of tracking and quality systems
  – Implementation of the regulatory structure for tissue grafting, with the National Organization for Tissue Donation (ONDT).
• Today more than 20 injured or burn children are treated at the INSN
• Our Target: Sustainable Development Goal 3