

# LIFE WITHOUT ANTIBIOTICS

*“We estimate by 2050, 10 million lives a year and a cumulative \$100 trillion of economic output are at risk due to rise of drug resistant infections”*

The Review on Antimicrobial Resistance chaired by Lord Jim O’Neill, 2016

MEDICAL NEED	CONDITION	OUTCOME WITHOUT EFFECTIVE ANTIBIOTICS
Accidents	Organ damage and bone breakages	AMR could lead to long term organ damage and chance of death will significantly increase
Arthritis	Arthritic hips and knees	AMR could lead to long term organ damage and chance of death will significantly increase
	Rheumatoid arthritis	Severe cases require treatment with immunosuppressive drugs reducing immunity and increasing chances of infection
Biopsies	For diagnosing many conditions such as prostate, liver, pancreatic cancer, endocrine disorders etc	Antibiotic resistant infection occurs through introduction of bacteria via the biopsy needle
Cancer	Bowel cancer	Surgery becomes virtually impossible as no antibiotics to clear the gut of resistant bacteria pre - and post-surgery
	Breast cancer	Surgery becomes life-threatening as antibiotics given pre- and post-surgery to reduce the risk of infection
	Leukaemia and lymphoma	Bone marrow transplants become virtually impossible as body’s immune system no longer kills resistant bacteria. Chemotherapy also suppresses immune system. Increased risk of dying without effective antibiotics
	Chemotherapy	Many chemotherapy drugs suppress the immune system making the patient more likely to acquire an antibiotic resistant infection
Childbirth	Bacterial infection of mother and/or baby	Mortality rates at live births and C-sections increased around the world
Dentistry	Abscess, gum infection, facial tissue and bone surgery	Infection of tissues can result in cellulitis, septicaemia with risk of life threatening implications
Diabetes (Types 1 and 2)	Diabetic foot ulcers	Foot ulcers can become gangrenous and in extremis require toe or foot amputation

# WHY ANTRUK IS COMMITTED TO ANTIBIOTIC RESEARCH & EDUCATION

*“Even today 700,000 people die of resistant infections every year”*

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MEDICAL NEED	CONDITION	OUTCOME WITHOUT EFFECTIVE ANTIBIOTICS
General surgery	Appendectomy and other surgical procedures	Ordinary operations and biopsies more hazardous as infections rise
Heart problems	Heart by-pass surgery	Requires access to the heart through the chest wall. Danger of resulting infection very high
	Infected heart valves and endocarditis	Not treatable
Infections	Urinary tract, blood and skin	Infections will become untreatable in many cases leading to high risk of death
Lung infections	Pneumonia	30% of people affected could die from AMR
Meningitis	Infection of membranes in the brain	It is considered up to 70% of people affected would die
Organ failure	Heart, lung and kidney transplantation	Immunosuppressive drugs required to prevent organ rejection. Patient at high risk of infection without availability of antibiotics
Orthopaedics	Joint replacements and broken bones	Surgery becomes virtually impossible
Prolonging life	Old age	Estimated that without antibiotics life expectancy could reduce by up to 20 years
Renal failure	Dialysis patients	Increased risk of blood infections and death
Septicaemia	Blood poisoning/septic shock leading to general organ failure	Causes estimated 44,000 deaths annually in UK of which approx. 1/3 <sup>rd</sup> are antibiotic resistant
Sick infants and toddlers	Trauma, heart problems etc	Resistant infections in Intensive Care Units rise with a consequent increase in deaths
Wounds	Any wound either deliberate such as surgery or accidental such as cuts and abrasions	Wounds permit penetration of bacteria into the bloodstream. Before antibiotics up to 10% of people died from infection. Limbs were amputated to prevent general organ failure

[www.antibioticresearch.org.uk](http://www.antibioticresearch.org.uk)