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Vila Franca de Xira



Mais Antibióticos, Menos Saúde!

Novos Antibióticos: Qual o Pipeline?

Carla Ferrer

Fármacos que curam: Antibióticos



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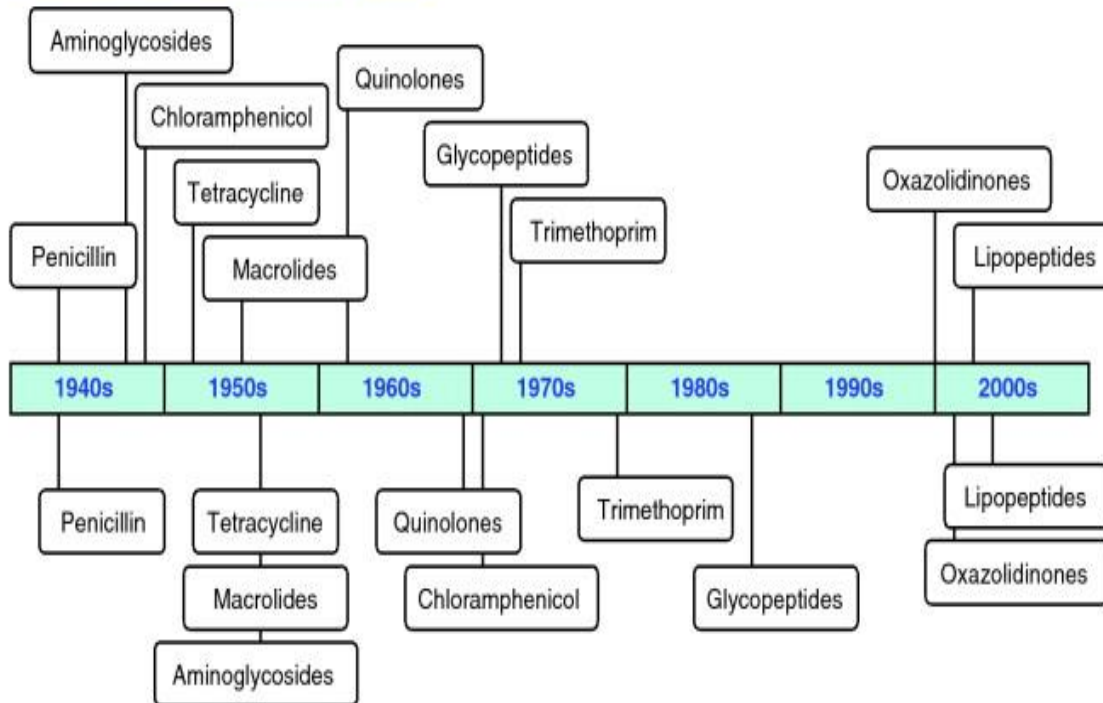
A medicina moderna depende da disponibilidade de antibióticos efetivos....

I&D Antibióticos: retrospectiva



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Antibiotic introduced in clinical practice



Antibiotic



Resistance

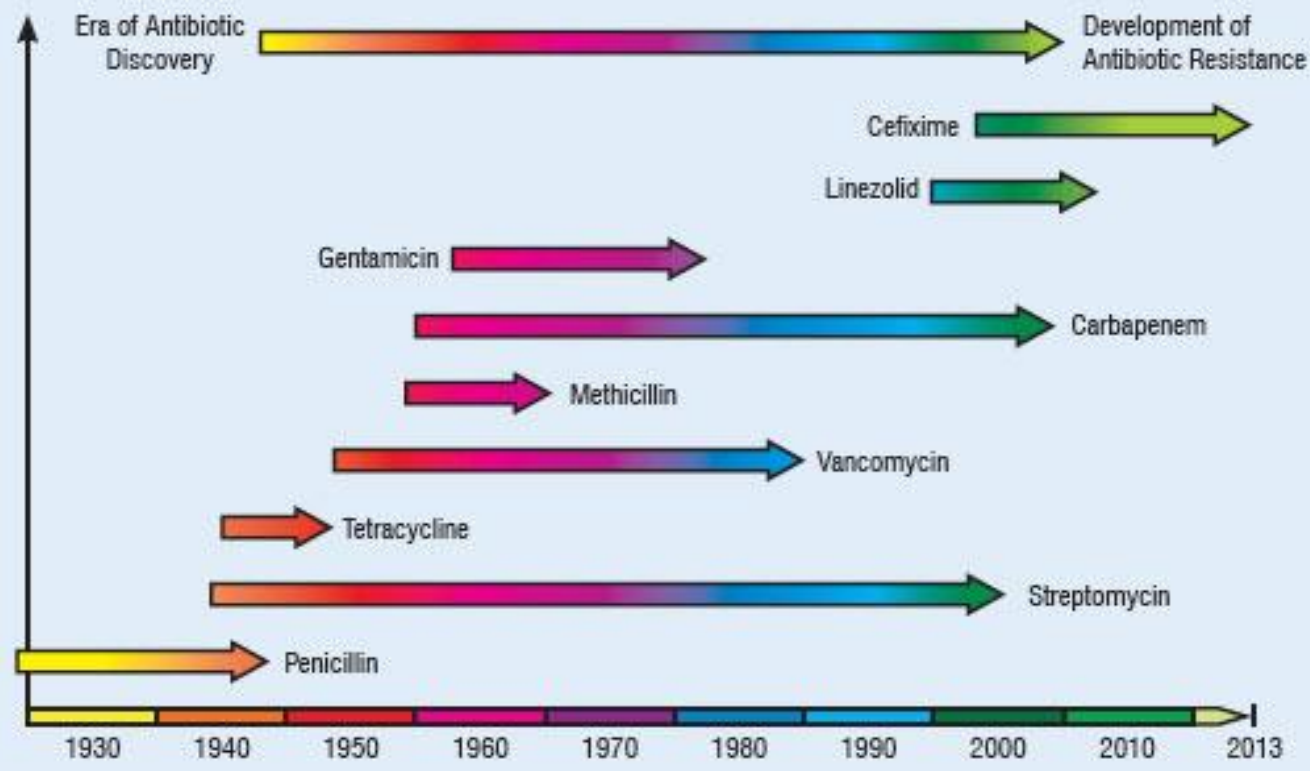
TRENDS in Pharmacological Sciences

I&D Antibióticos: retrospectiva



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The Discovery and Consequent Development of Antibiotic Resistance



I&D Antibióticos



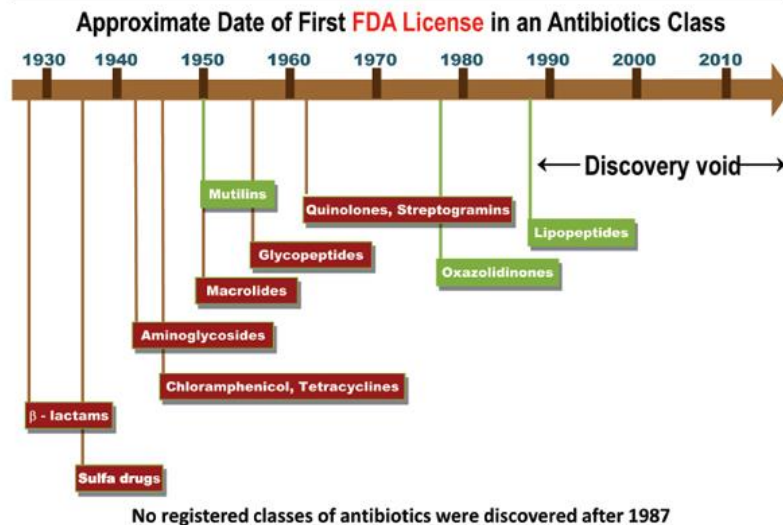
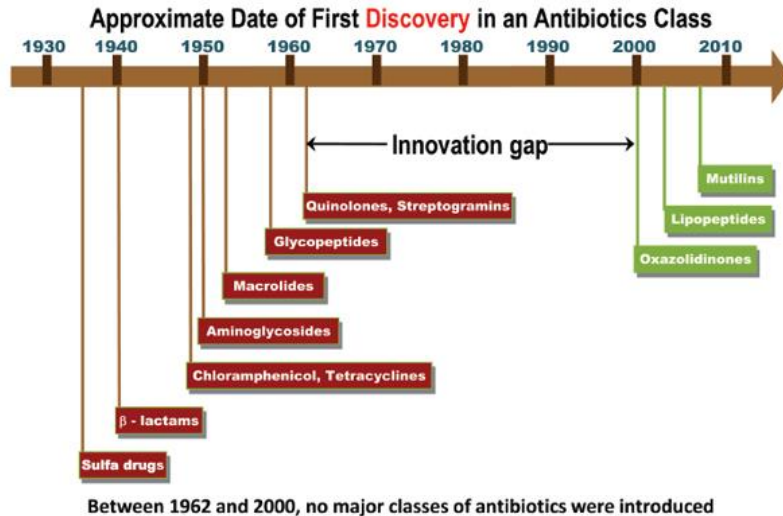
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I&D Antibióticos: retrospectiva

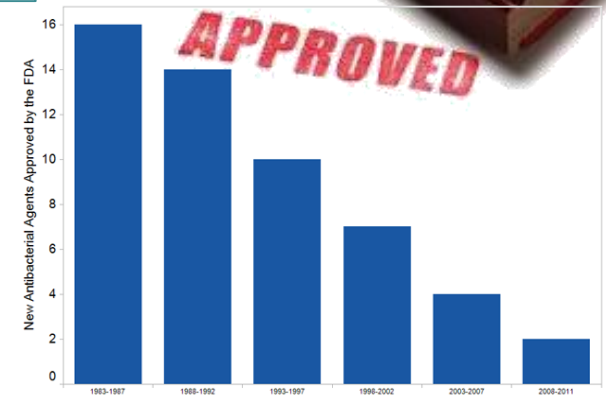


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I&D Antibióticos:

- ✓ O processo de aprovação pelas entidades reguladoras tornou-se mais moroso:
 - ✓ Mais evidencia exigida
 - ✓ Investigação e desenvolvimento mais demorado
 - ✓ Custo de desenvolvimento elevado para terapêutica curativa e com baixo tempo de administração
 - ✓ Contraria a tendência de desenvolvimento de terapêuticas para doenças crónica, Oncologia e Doenças raras



I&D Antibióticos: Evolução



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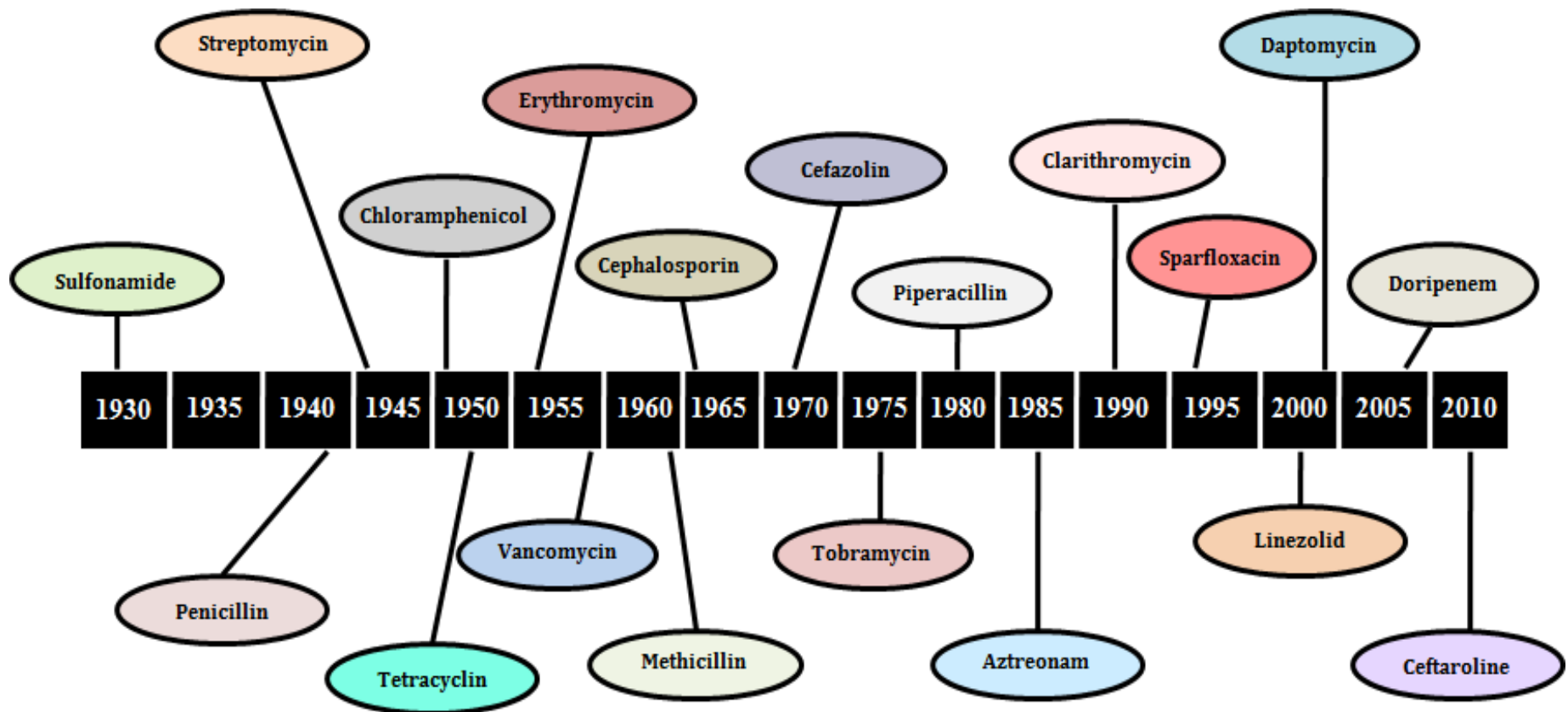


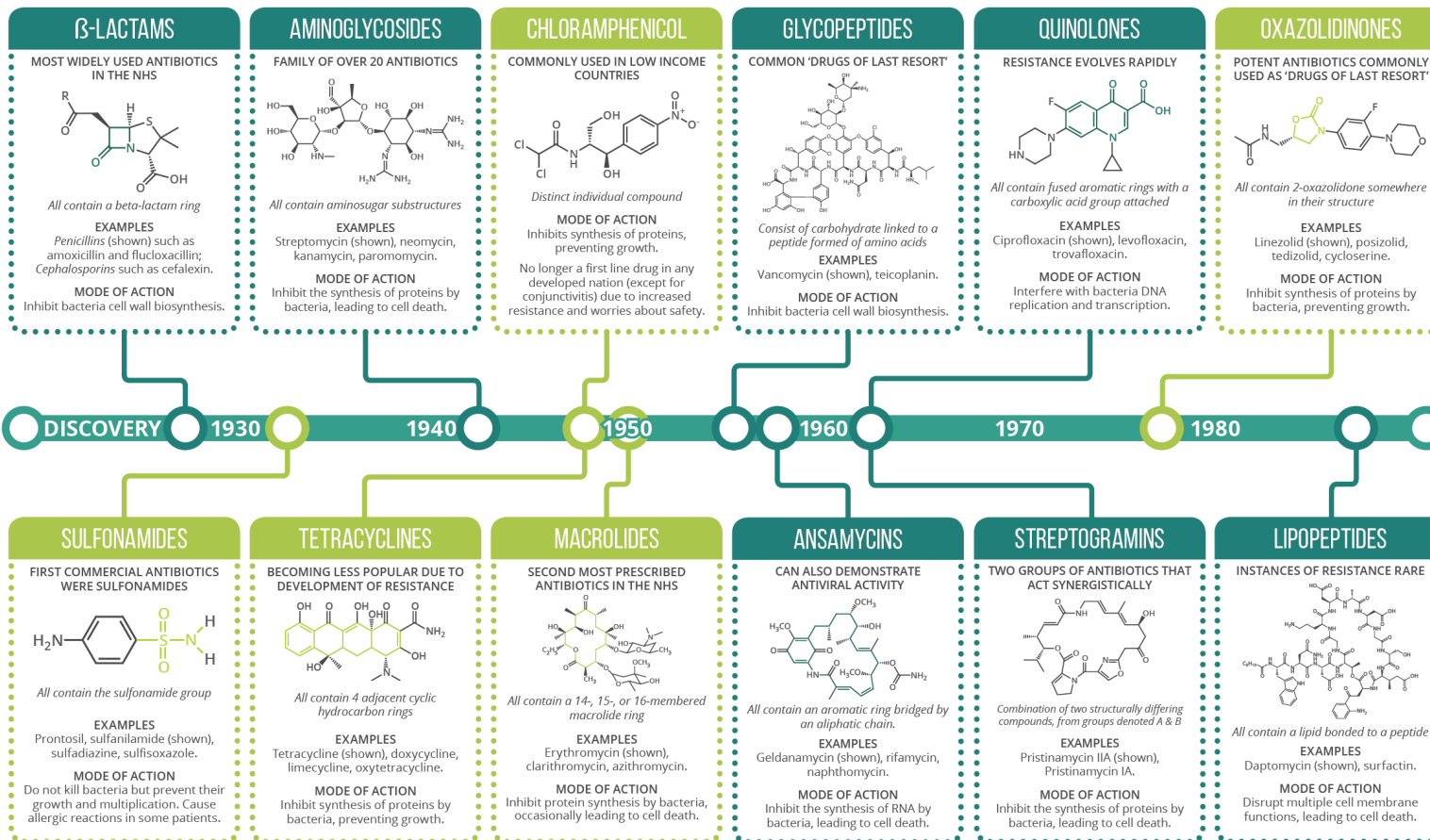
Foto atual Antibióticos



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DIFFERENT CLASSES OF ANTIBIOTICS - AN OVERVIEW

Key: ● COMMONLY ACT AS BACTERIOSTATIC AGENTS, RESTRICTING GROWTH & REPRODUCTION ● COMMONLY ACT AS BACTERICIDAL AGENTS, CAUSING BACTERIAL CELL DEATH



Novos Antibióticos



Pssst! Hey kid! Wanna be a Superbug...?
Stick some of this into your genome...
Even penicillin won't be able to harm you...!



It was on a short-cut through the hospital kitchens that Albert was first approached by a member of the Antibiotic Resistance.

I&D Antibióticos:



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- Ausência de novas Classes.
- Melhoria perfil de atividade dos AB pré-existentes.

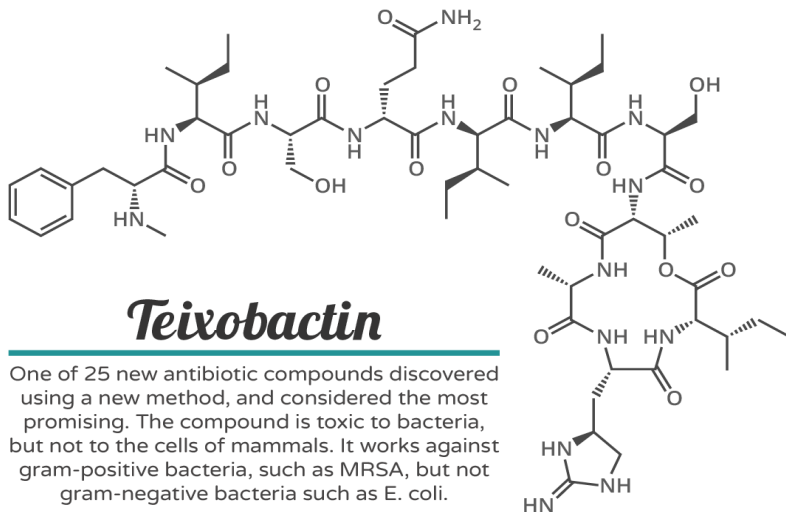
- Infectious Diseases Society of America's (IDSA) lança campanha 10 x '20
- Referencial para desenvolvimento (FDA e OMS):
 - AB sistémicos para Patogenes ESKAPE: pathogens: *Enterococcus faecium*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, e *Enterobacteriáceas*.



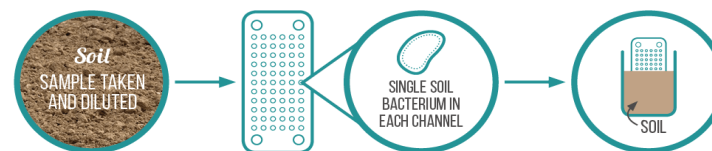
Pipeline 2015: Inibidor da síntese Peptidoglicano

TEIXOBACTIN - A NEW ANTIBIOTIC

Teixobactin is the first member of a new class of antibiotics - and, more importantly, the method used to discover it could lead to many more.



HOW TEIXOBACTIN WAS DISCOVERED



A DEVICE REFERRED TO BY RESEARCHERS AS THE 'iCHIP' WAS USED TO CULTURE SOIL BACTERIA ALLOWING NUTRIENTS & SIGNAL MOLECULES TO PASS TO THE BACTERIA & STIMULATE GROWTH.

Bacteria themselves produce antibacterial compounds to kill off competing bacteria, but 99% of these bacteria cannot be grown in a lab. The discovery of teixobactin is actually less important than the method used to discover it; researchers used a device that allowed them to dilute the bacteria-containing soil samples, sandwich them between two semi-permeable membranes, then immerse them in soil, allowing the bacteria to be grown in the lab; a method which could eventually lead to many more potential antibiotic candidates.

HOW TEIXOBACTIN WORKS

Teixobactin has a unique mechanism of action, targeting lipid molecules bacteria use to build their cell walls. As it's hard for bacteria to alter these molecules, it's expected to take much longer for resistance to develop.



LIMITATIONS OF TEIXOBACTIN



ONLY TESTED IN MICE



TRIALS TAKE TIME



LIKELY INJECTION ONLY



NOT VS. ALL BACTERIA

Teixobactin human trials are yet to begin; approval could take several years. It doesn't work against bacteria with an extra membrane around their cell wall.

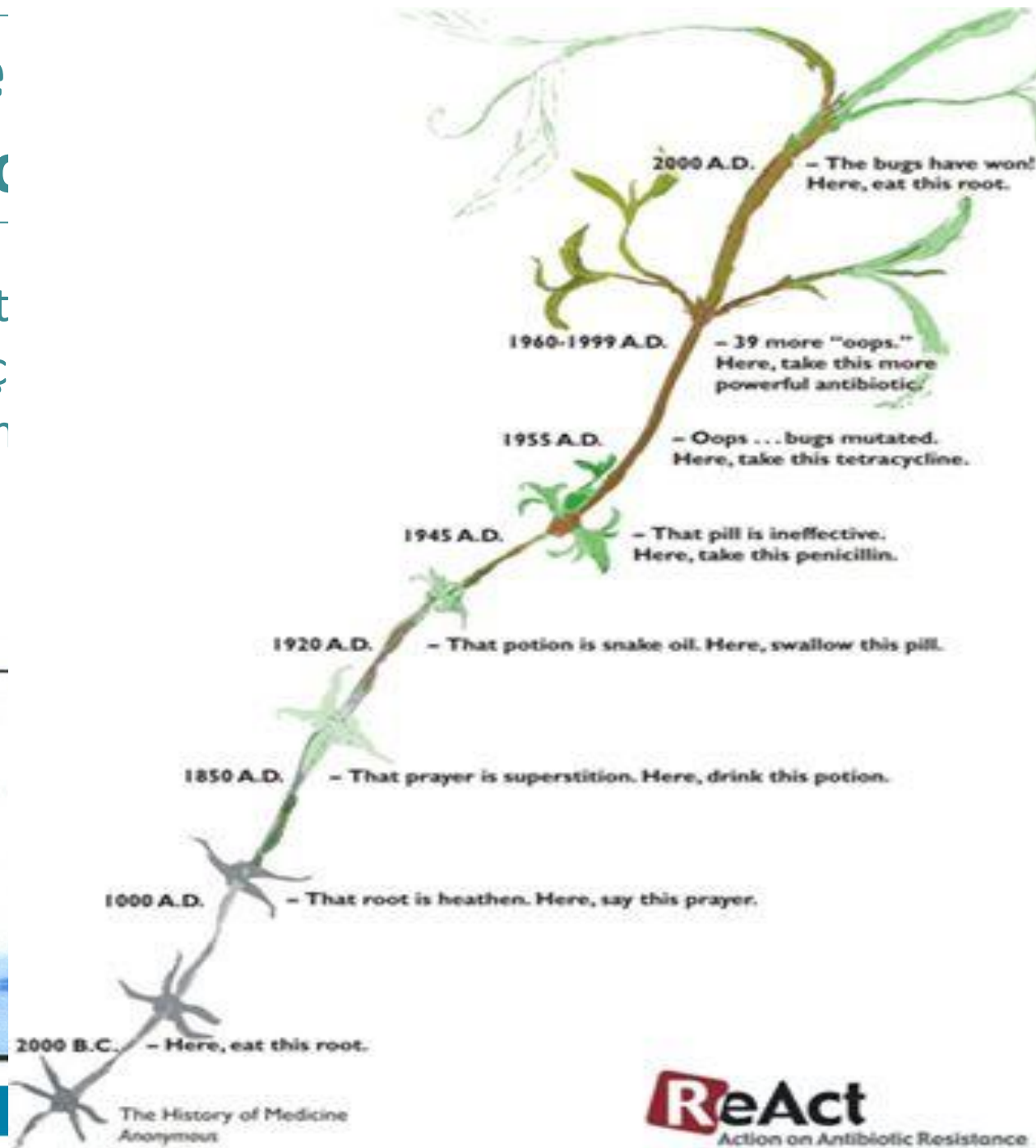


Prese futuro

É Urgent
adequaç
Caso con



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Dia Europeu do Antibiótico

18 de Novembro de 2011



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Mais Antibióticos, Menos Saúde!

A Prevenção da Resistência aos
Antibióticos nas Mãos dos
Profissionais de Saúde...





Horário: 9h-10h30
Auditório do Hospital VFX



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Obrigada



Antibiotics: Handle With Care
2015 Campaign Toolkit

“Antimicrobial resistance is not a future threat looming on the horizon. It is here, right now, and the consequences are devastating”
Director-General of WHO, Dr Margaret Chan, 2014

#AntibioticResistance



World Health Organization