

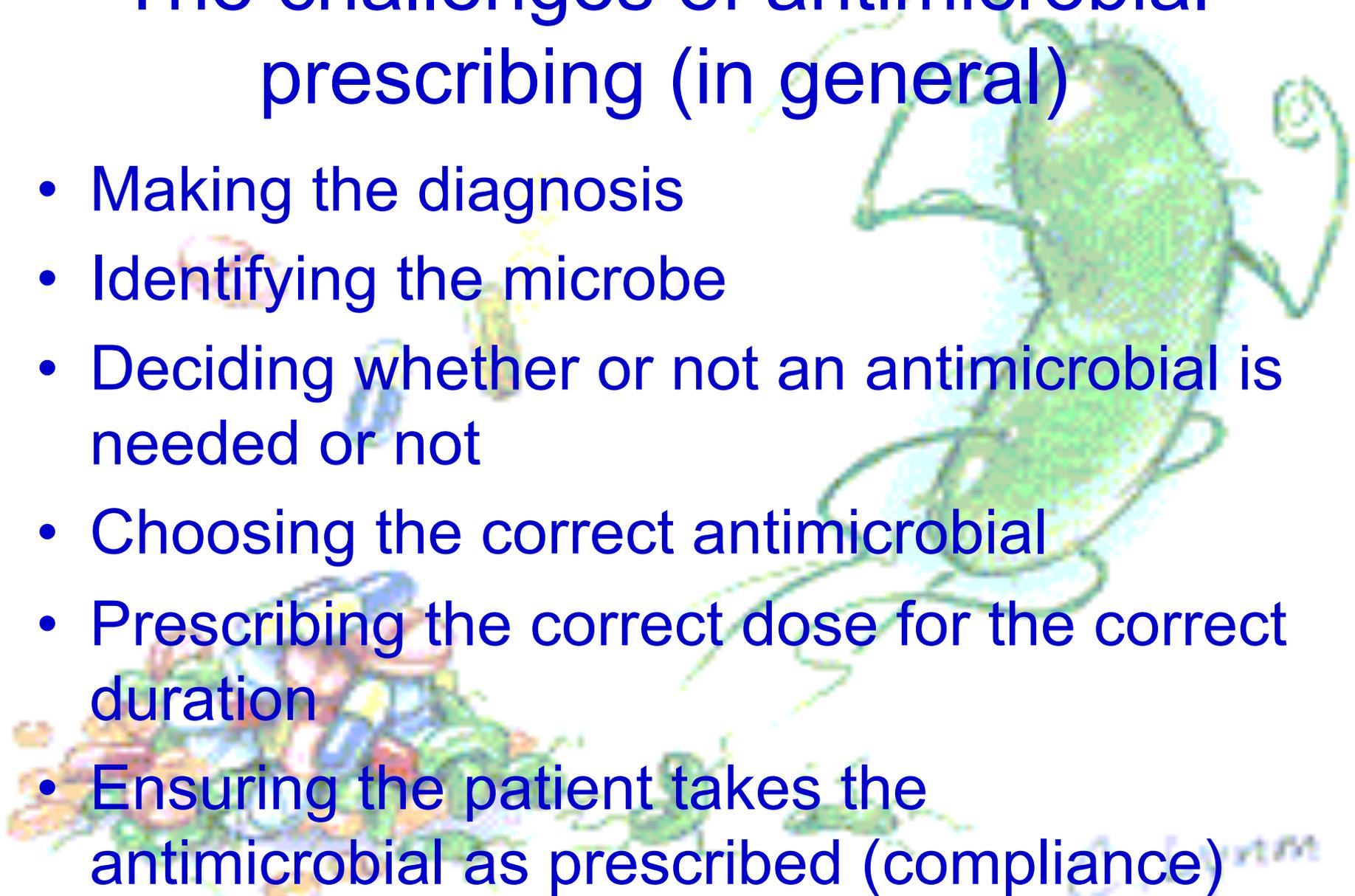
The challenges of prescribing antimicrobials in an ageing population

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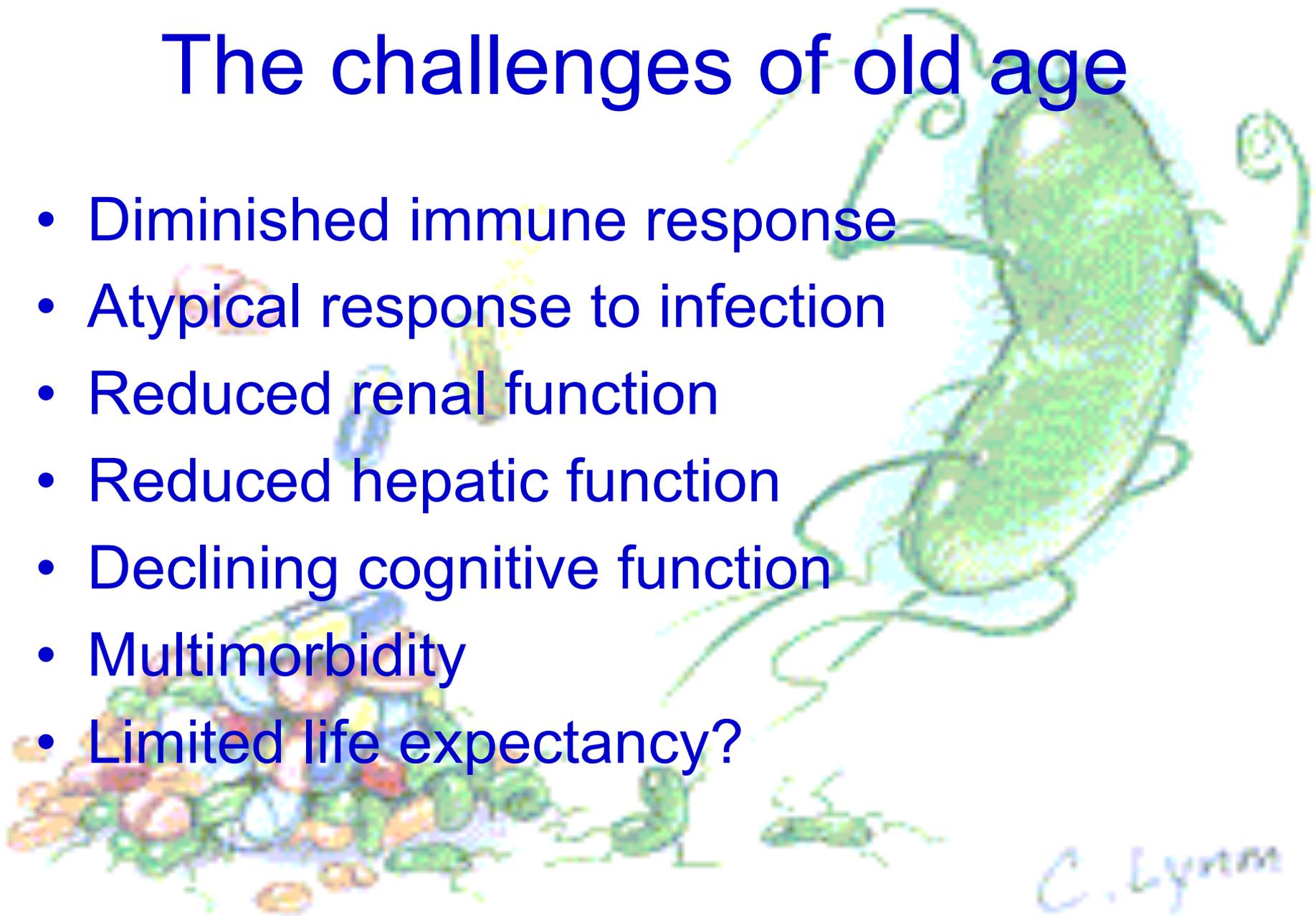
The challenges of antimicrobial prescribing (in general)

- Making the diagnosis
- Identifying the microbe
- Deciding whether or not an antimicrobial is needed or not
- Choosing the correct antimicrobial
- Prescribing the correct dose for the correct duration
- Ensuring the patient takes the antimicrobial as prescribed (compliance)



The challenges of old age

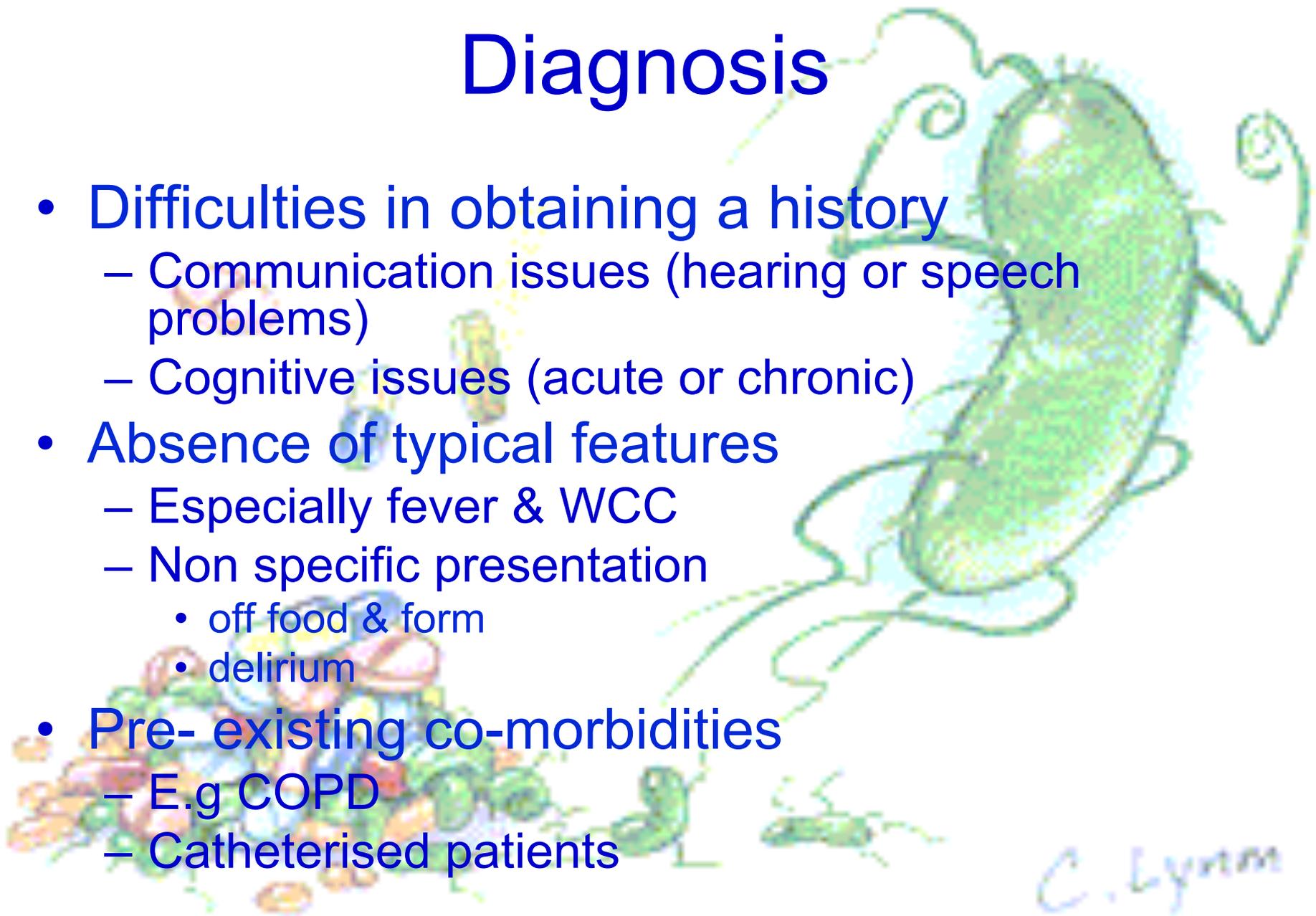
- Diminished immune response
- Atypical response to infection
- Reduced renal function
- Reduced hepatic function
- Declining cognitive function
- Multimorbidity
- Limited life expectancy?



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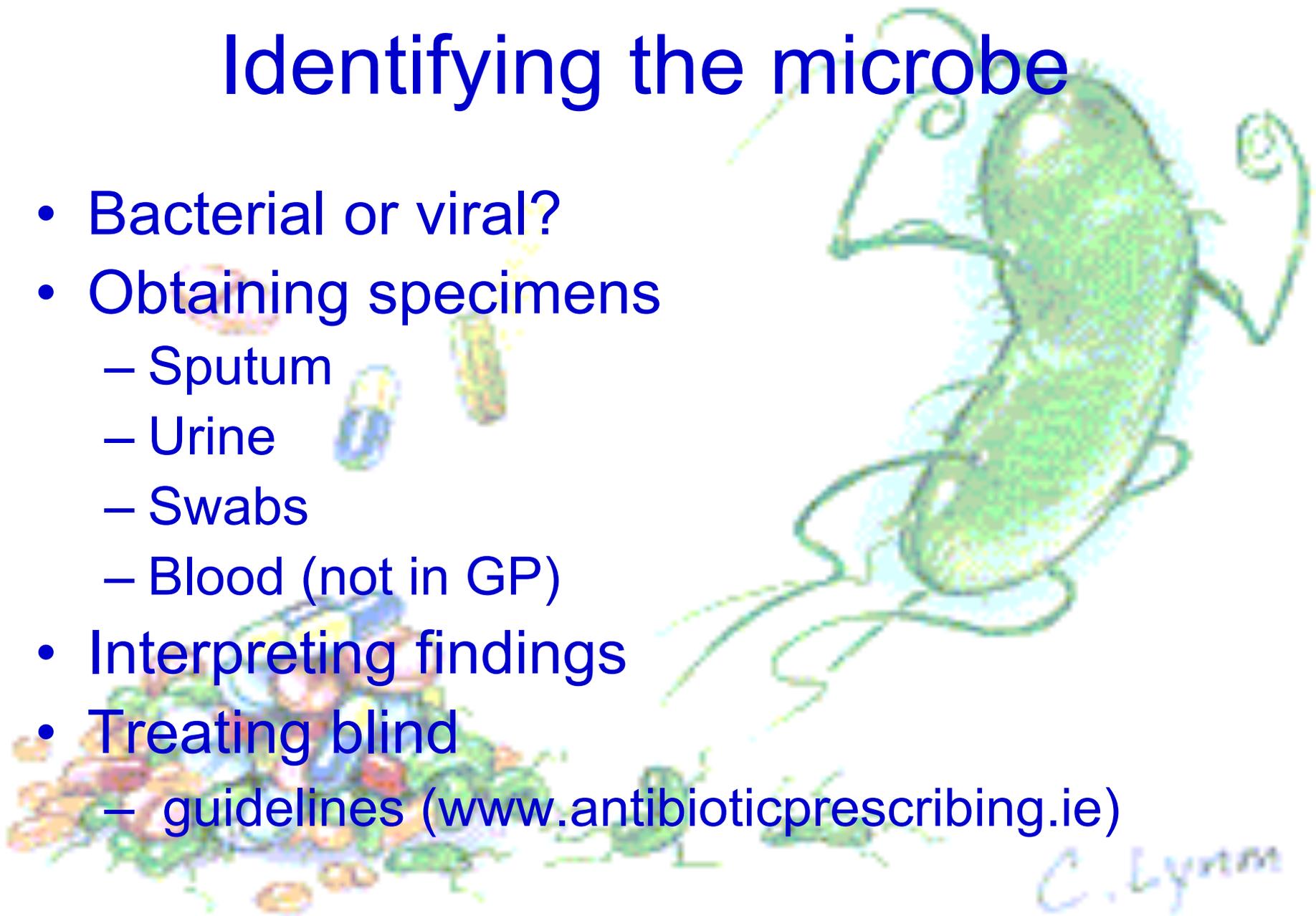
Diagnosis

- Difficulties in obtaining a history
 - Communication issues (hearing or speech problems)
 - Cognitive issues (acute or chronic)
- Absence of typical features
 - Especially fever & WCC
 - Non specific presentation
 - off food & form
 - delirium
- Pre-existing co-morbidities
 - E.g COPD
 - Catheterised patients



Identifying the microbe

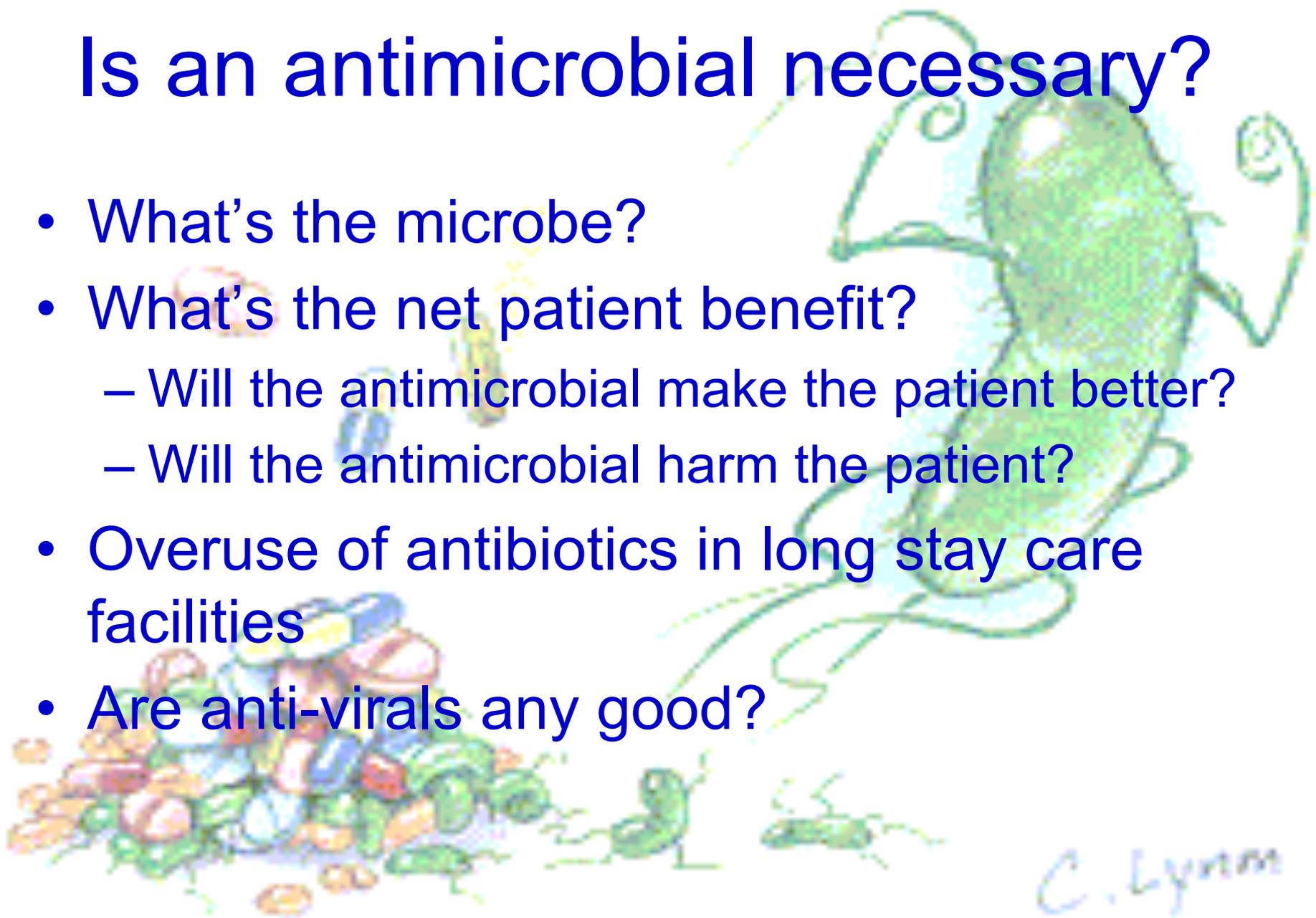
- Bacterial or viral?
- Obtaining specimens
 - Sputum
 - Urine
 - Swabs
 - Blood (not in GP)
- Interpreting findings
- Treating blind
 - guidelines (www.antibioticprescribing.ie)



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Is an antimicrobial necessary?

- What's the microbe?
- What's the net patient benefit?
 - Will the antimicrobial make the patient better?
 - Will the antimicrobial harm the patient?
- Overuse of antibiotics in long stay care facilities
- Are anti-virals any good?



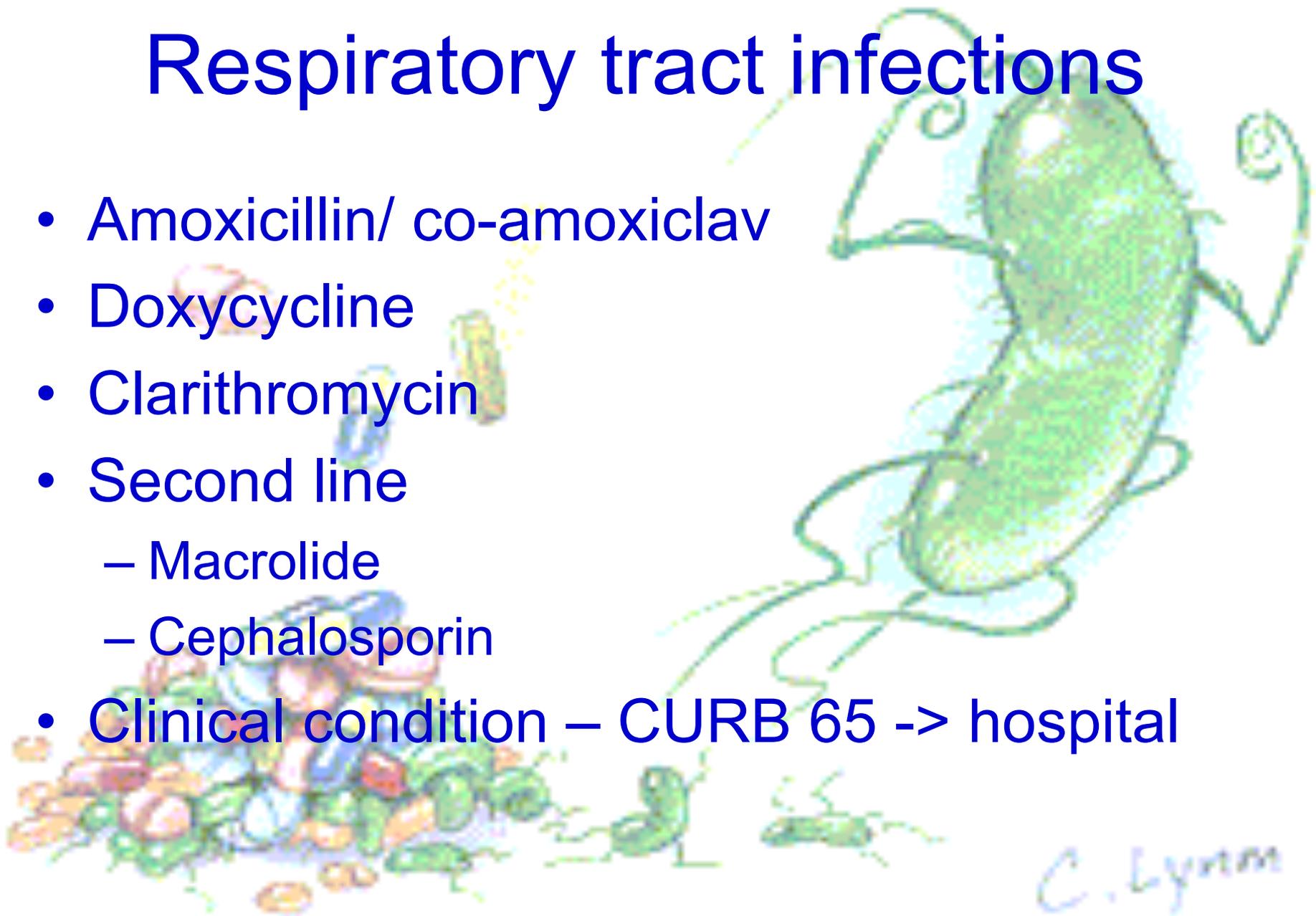
Choosing the correct anti-microbial

- Right for the microbe
- Right for the patient
 - Renal function
 - Hepatic function
 - What the patient has already got (contraindications)
 - What the patient is already on (interactions)



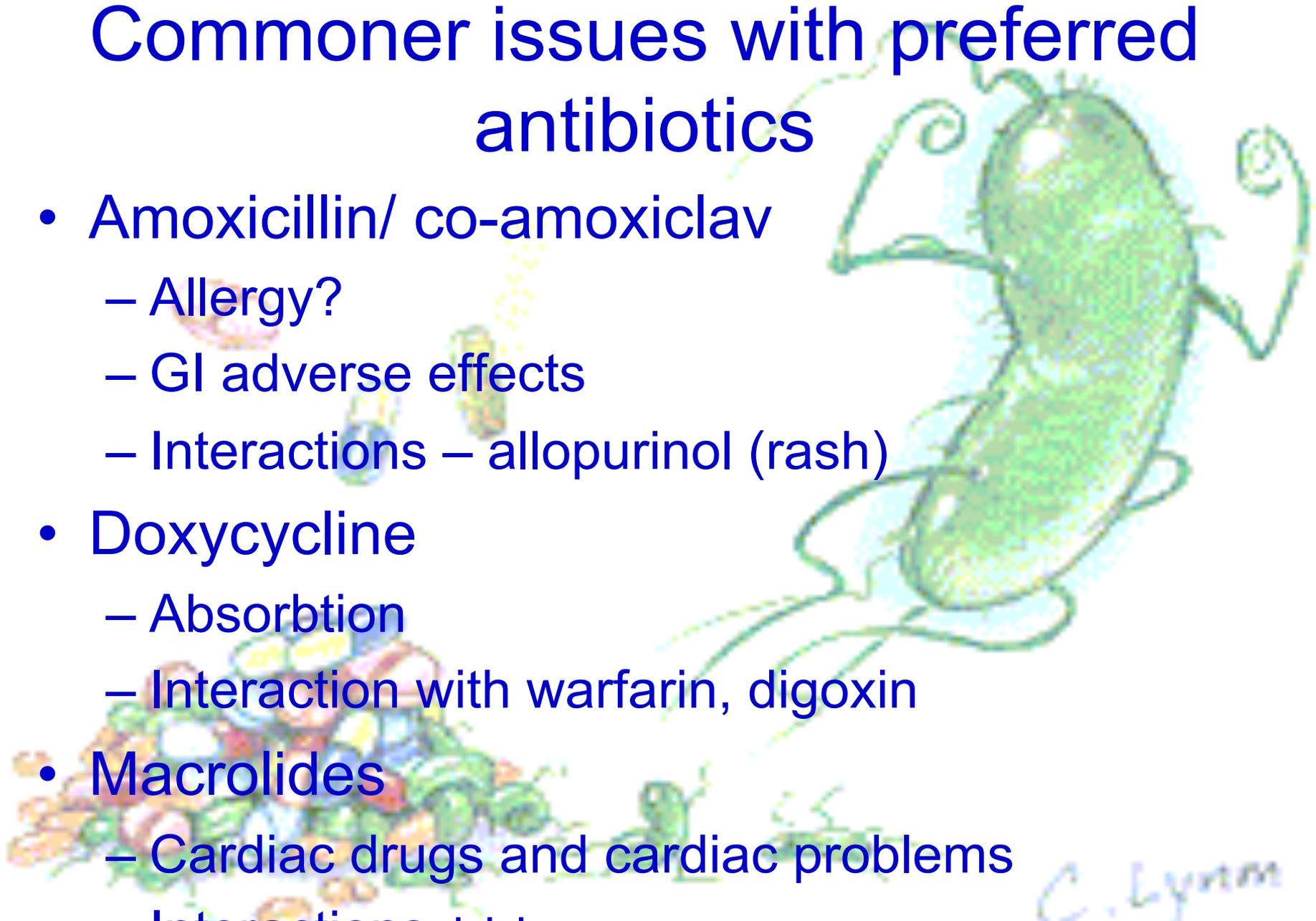
Respiratory tract infections

- Amoxicillin/ co-amoxiclav
- Doxycycline
- Clarithromycin
- Second line
 - Macrolide
 - Cephalosporin
- Clinical condition – CURB 65 -> hospital



Commoner issues with preferred antibiotics

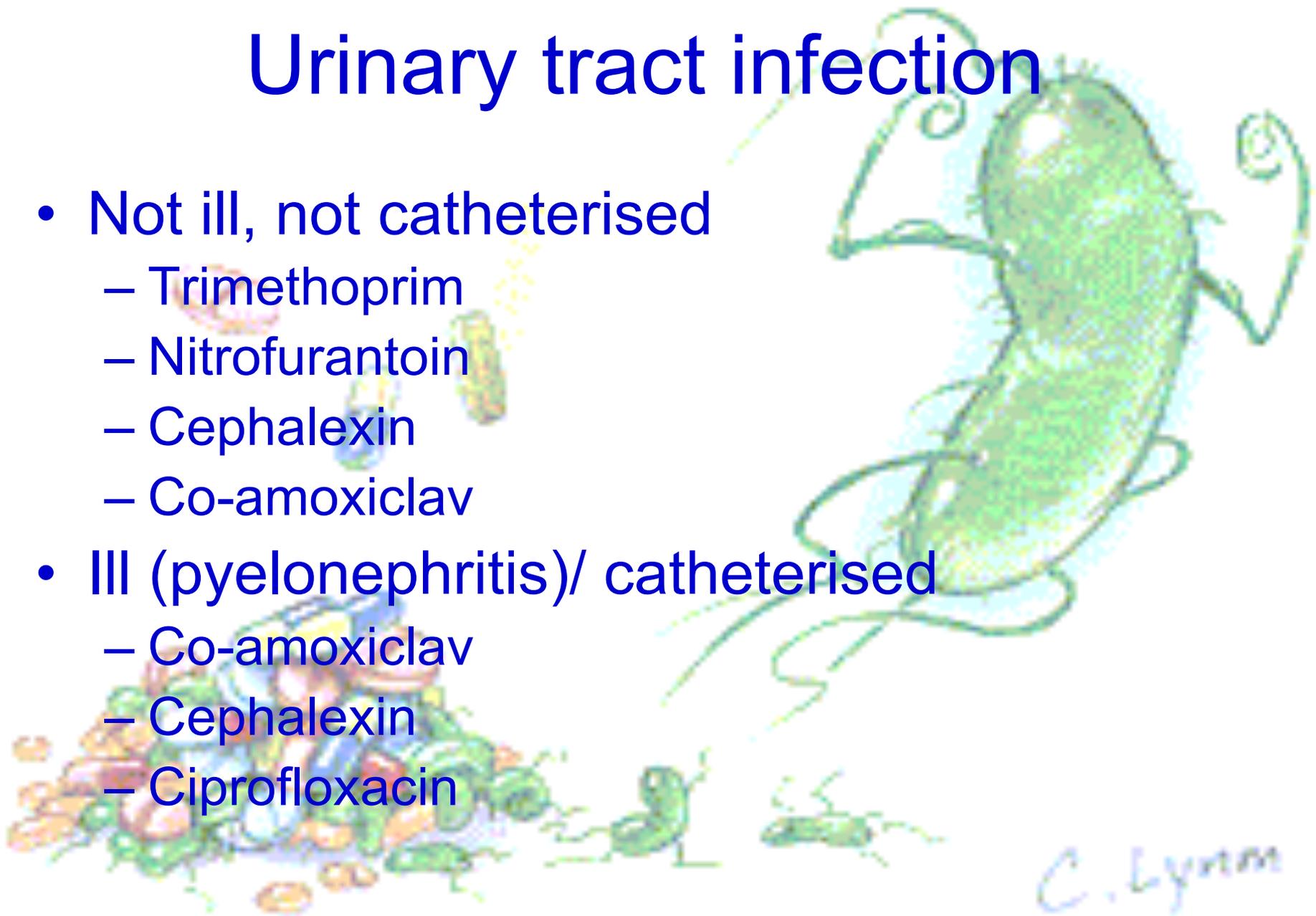
- Amoxicillin/ co-amoxiclav
 - Allergy?
 - GI adverse effects
 - Interactions – allopurinol (rash)
- Doxycycline
 - Absorbtion
 - Interaction with warfarin, digoxin
- Macrolides
 - Cardiac drugs and cardiac problems
 - Interactions +++



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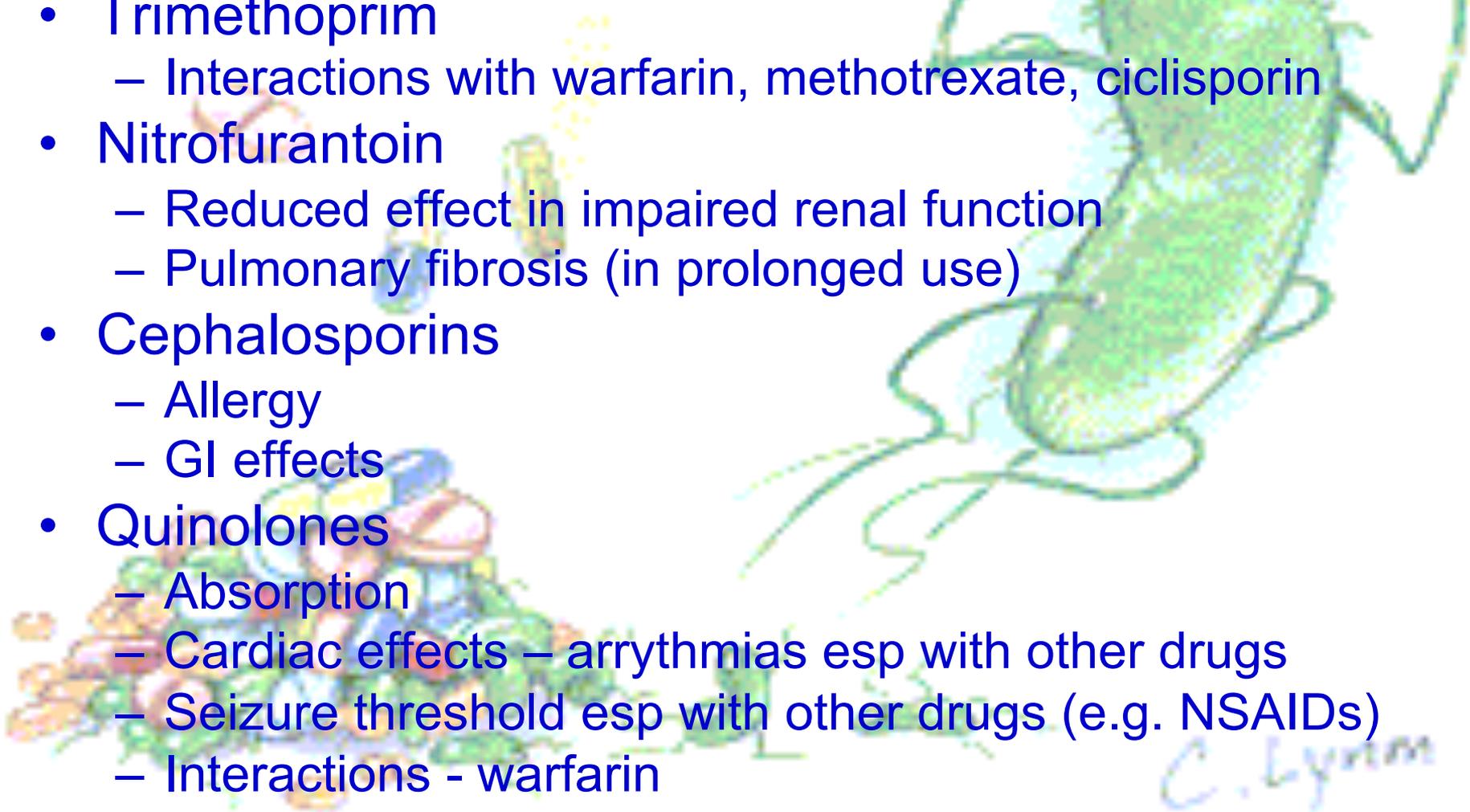
Urinary tract infection

- Not ill, not catheterised
 - Trimethoprim
 - Nitrofurantoin
 - Cephalexin
 - Co-amoxiclav
- Ill (pyelonephritis)/ catheterised
 - Co-amoxiclav
 - Cephalexin
 - Ciprofloxacin



Commoner issues with preferred antibiotics

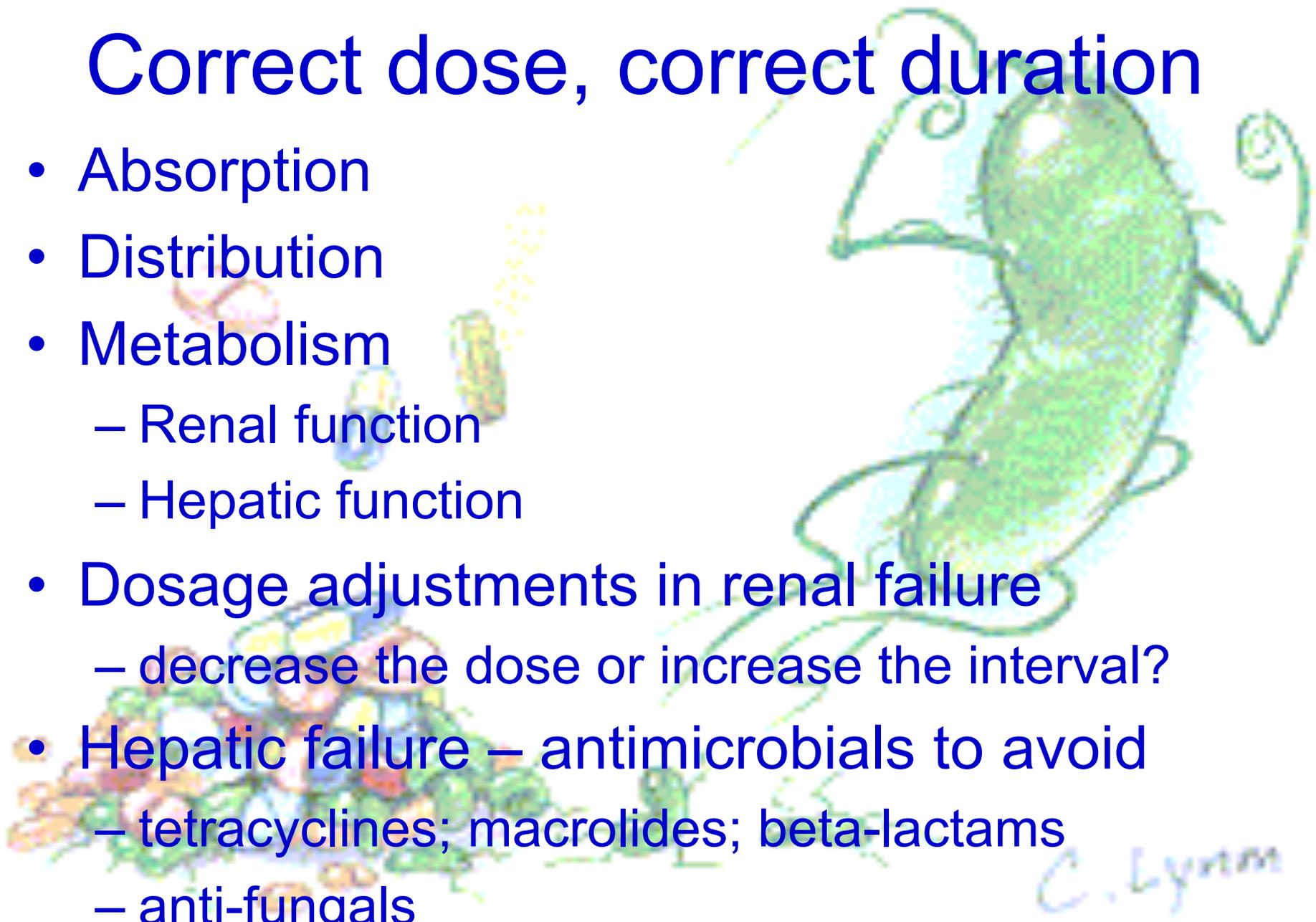
- Trimethoprim
 - Interactions with warfarin, methotrexate, ciclosporin
- Nitrofurantoin
 - Reduced effect in impaired renal function
 - Pulmonary fibrosis (in prolonged use)
- Cephalosporins
 - Allergy
 - GI effects
- Quinolones
 - Absorption
 - Cardiac effects – arrhythmias esp with other drugs
 - Seizure threshold esp with other drugs (e.g. NSAIDs)
 - Interactions - warfarin



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Correct dose, correct duration

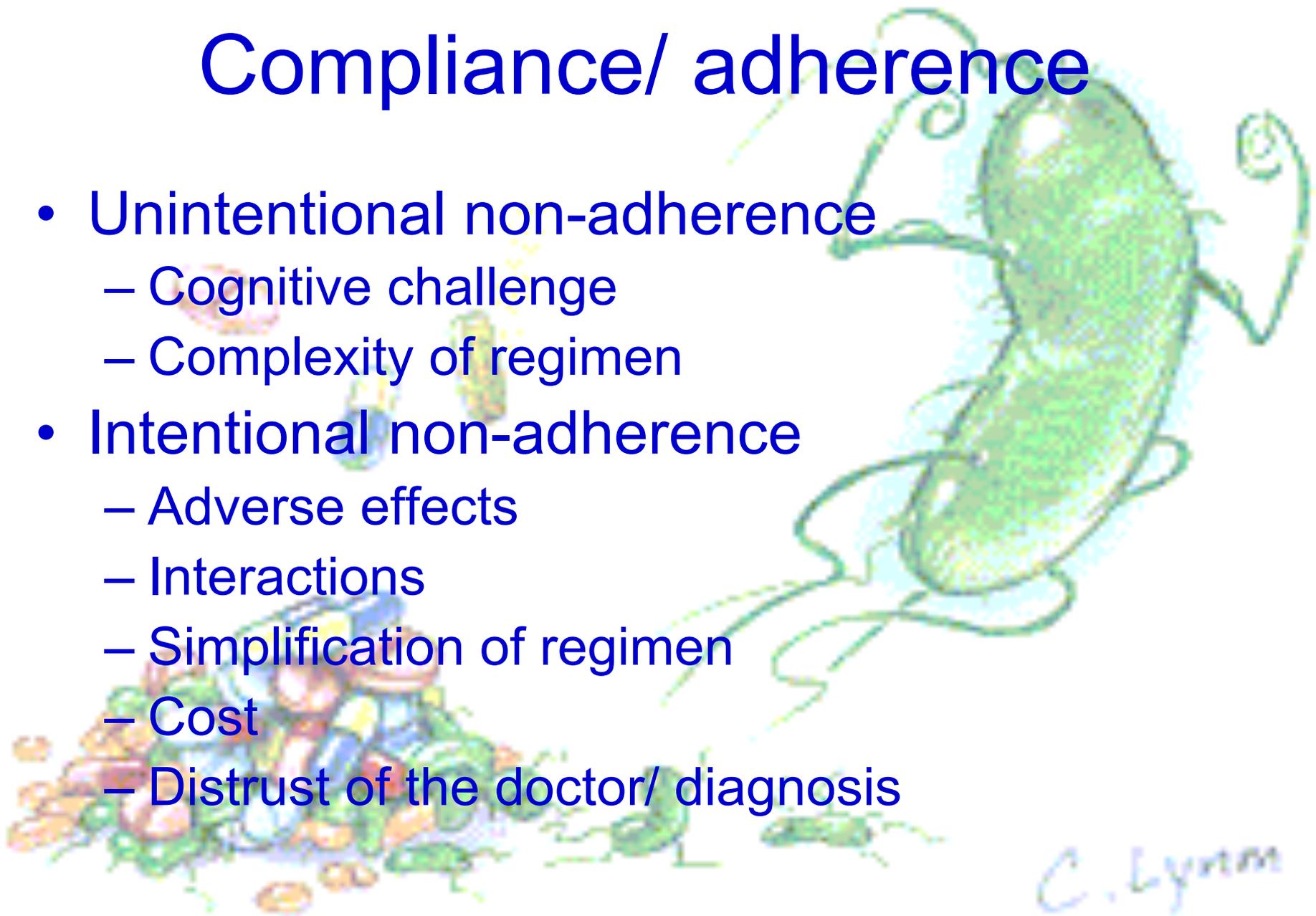
- Absorption
- Distribution
- Metabolism
 - Renal function
 - Hepatic function
- Dosage adjustments in renal failure
 - decrease the dose or increase the interval?
- Hepatic failure – antimicrobials to avoid
 - tetracyclines; macrolides; beta-lactams
 - anti-fungals



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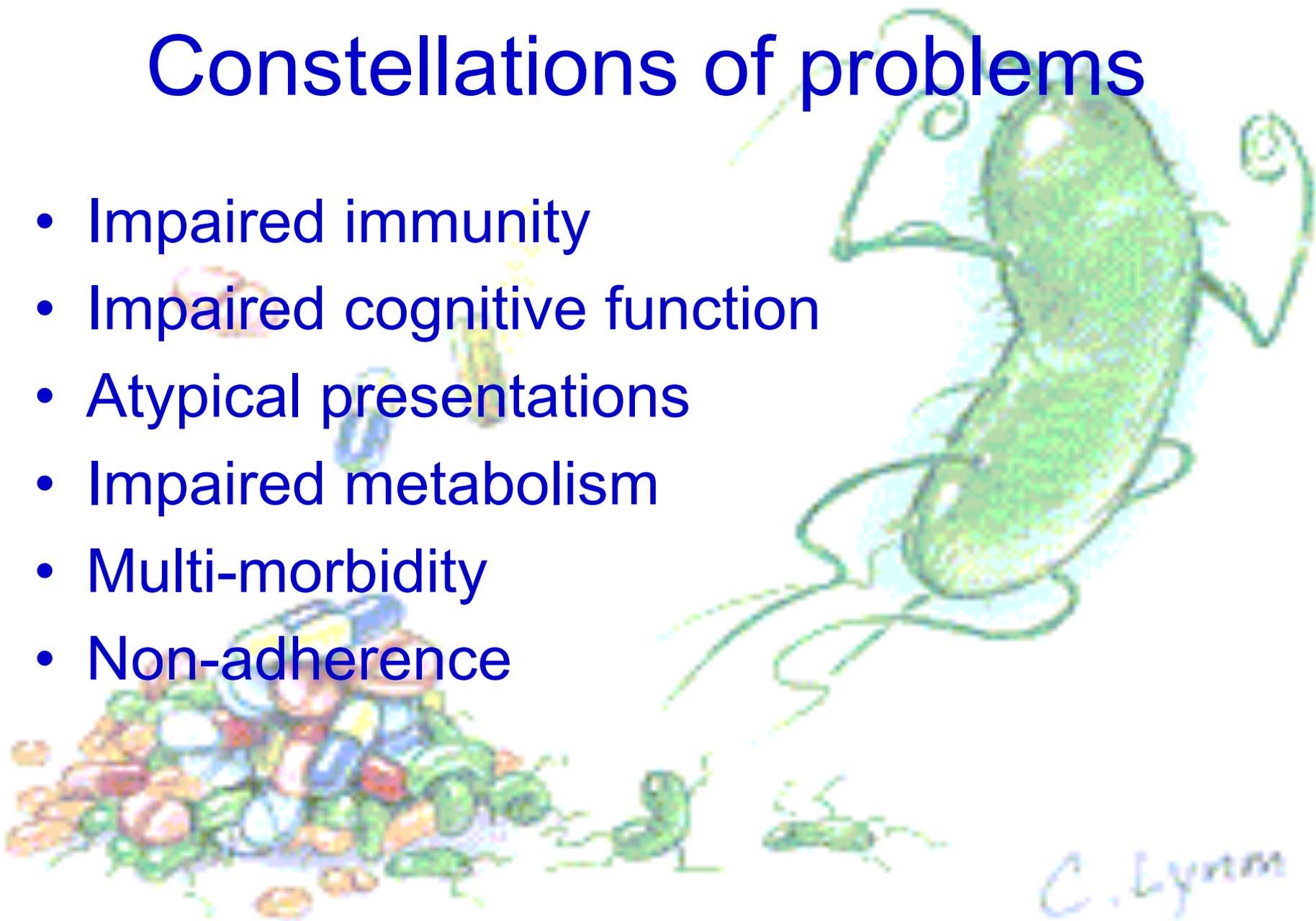
Compliance/ adherence

- Unintentional non-adherence
 - Cognitive challenge
 - Complexity of regimen
- Intentional non-adherence
 - Adverse effects
 - Interactions
 - Simplification of regimen
 - Cost
 - Distrust of the doctor/ diagnosis



Constellations of problems

- Impaired immunity
- Impaired cognitive function
- Atypical presentations
- Impaired metabolism
- Multi-morbidity
- Non-adherence



The anxieties of old age

- For the patient
 - Is this 'it' ? (am I dying?)
 - Is this 'it' ? (the end of independence)
 - Am I becoming a burden?
- For the doctor
 - Am I being ageist?
 - Am I being too aggressive?

