Survey of nasal carriage of staphylococcus aureus in microbiology

Survey of Nasal Carriage of Staphylococcus aureus in Microbiology 1 Students at RMIT Aim: To determine the carriage rate of Staphylococcus aureus in the nares of students taking second year microbiology courses at RMIT. Introduction: Carriage of S. aureus is important in hospital patients, preoperative patients, hospital staff, foodhandlers etc. because it carriage of S.

aureus appears to play a key role in the epidemiology and pathogenesis of infection. S. aureus can cause localized and invasive infections in humans. S. ureus is a major cause of food poisoning due to their ability to produce enterotoxins which if ingested in sufficient amounts results in sickness. Food handlers carrying enterotoxin-producing S. aureus in their noses or hands can contaminate food leading to food poisoning.

Hospital personnel may be nasal carriers of S. aureus in a higher percentage of cases than in the general population. In a hospital study, S. aureus nasal carriage rates were found 28% (41/144) in normal population, and 31. 5% (12/38) in hospital laboratory personnel. Materials: Mannitol salt agar (MSA) plate – Mannitol is a carbohydrate that can be used by some bacteria as a nutrient. The use of mannitol is important in identifying Stapphylococcus species.

Mannitol salt agar contains 7. 5%sodium chloride(salt) whereas, most media contains about 0. 5% sodium chloride. Organisms that cannot tolerate a high salt concentration will not grow on the plate. Staphylococcus species can grow in a high salt concentration. Mannitol positive organisms produce an acid when they grow.

Staphylococcus aureus grows on a mannitol salt agar plate. It is mannitol positive * Sterile swab – Although S. ureus is common flora on the skin, we swab the nose because it thrives on warm moist places. Anything that can get on the skin can get in the nose through contact. The warm wetness of the nose is probably a more stableenvironmentthan the skin for S. aureus. Method: Using the one sterile swab (swab may be moistened in sterile saline if desire), swab both the left and right nostrils andcultureonto a MSA plate.

Use the swab to prepare the primary inoculum. Streak dilute in the normal way with a flamed flood. Incubate 35°C, O2, 44-48h * MSA Plates were incubated at 35°C / 44-48 hours -