Antimicrobial stewardship has been defined as “the optimal selection, dosage, and duration of antimicrobial treatment that results in the best clinical outcome for the treatment or prevention of infection, with minimal toxicity to the patient and minimal impact on subsequent resistance. The resistant pathogen such MRSA or multidrug-resistant Pseudomonas aeruginosa (MDRP) is a serious problem in Japan. The outbreak of multidrug-resistant Acinetobacter spp was reported recently. The number of ESBL producers has been increasing. Thus, antimicrobial stewardship programs (involving physicians, pharmacists other healthcare providers) are increasing in Japan.

The prescription authorization: Most Japanese hospitals adopt the prescription authorization. The antimicrobial steward reviews the antibiotic order for appropriateness at the time it is written. Specific antimicrobials are restricted to use by certain prescribers or units, whereas others must obtain authorization. Each hospital encourages the use of antimicrobials based on each formulary.

Clinical guidelines and treatment algorithms: Japanese society of chemotherapy (JSC) and The Japanese Association for Infectious Diseases (JAID) have published the guideline for the prescriber to make evidence-based antibiotic choices based on local antimicrobial resistance patterns, national guidelines, and relevant clinical factors. They can also provide guidance for de-escalation and appropriate length of treatment.

Education: JSC have established the education program for the proper use of antimicrobials. Many doctors are interested in this program. In some hospitals, the infection control team educate about antimicrobial stewardship in the grand rounds, departmental conferences, house staff teaching.

Pharmacodynamic dose optimization: Pharmacodynamic dose optimization has been promoting by the societies, Japanese government and Pharmaceutical companies. Optimal use of currently available antimicrobials may improve outcomes without increased risk of toxic effects. The PK/PD properties of antimicrobial agents are important to design the dosages. The pharmacists...