# 7T MEDICATION ADMINISTRATION AND CROSS CHECK (MACC)

## PATIENT CARE GOALS

- To reduce the risk of medication errors and improve patient safety.

## EMT

1. This procedure is designed in a manner that will allow verification to occur even if "provider two" is a BLS level provider. It is less likely that a BLS provider will know or be able to verify dosages, but positive visual verification of information printed on the drug label can take place regardless of the second provider's knowledge of pharmacology. The drug name, concentration, and expiration date can still be verified. The procedure requires an out-loud verbal and visual verification, even though this procedure is weaker when provider two is unable to verify correct dosage and volume to be administered. Further, it is likely that some BLS providers are familiar with appropriate dosages, but in the event of a discrepancy, the person giving the drug will need to be able to support their dose decision.

## PARAMEDIC

2. Utilizing the reference card to the right, perform the Medication Administration and Cross-check (MACC)[1] for all medications administered. See **Reference 10 MACC**

3. The first step in the procedure is for provider one to initiate an intentional check with provider two – either by saying the phrase "**med check**," "**safety check**," or "**cross check**" (see Figure 1). Words found in bold in the procedure should be used; such that, there is a consistent understanding between providers and there is no confusion about what is being requested.

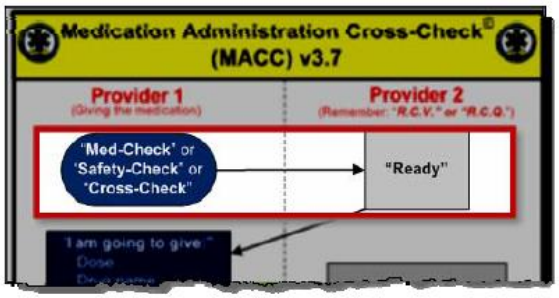
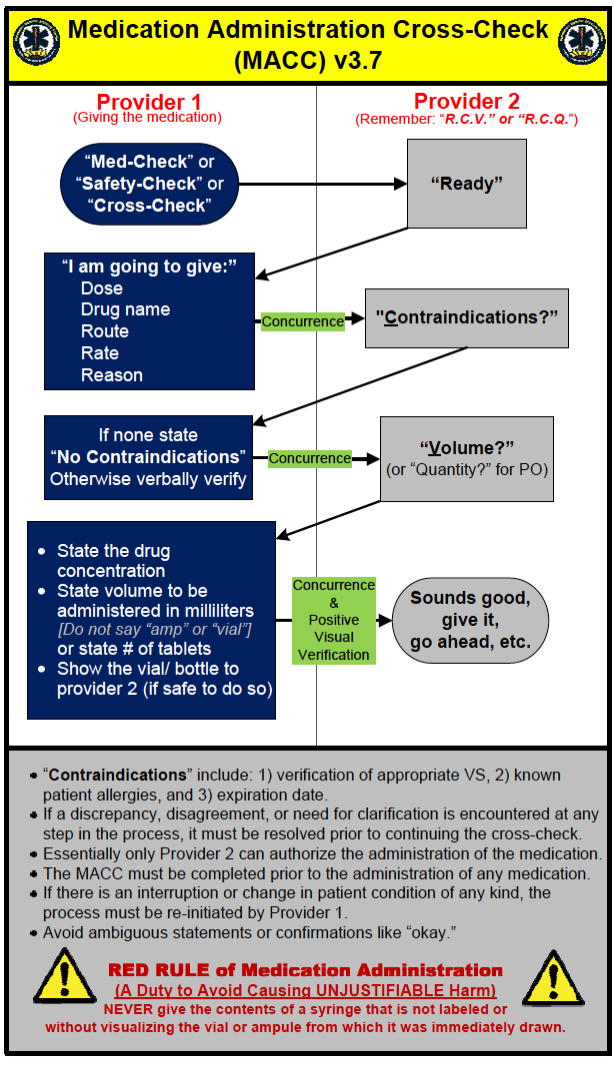



Figure 1

4. Provider two should respond that they are "**ready**" and provider one should affirm that he or she has the full attention of provider two. The purpose is to avoid ineffective verification.



5. Provider one responds by stating the dose, drug name, route, rate of administration, and the reason for administration (see Figure 2). The purpose is so that providers become accustomed to learning and knowing the mechanism of action and pathophysiologic basis of pharmacologic intervention, rather than rote protocol memorization. This also enables verification of administration speed, as well as to ensure that both providers agree that the drug is necessary for administration.

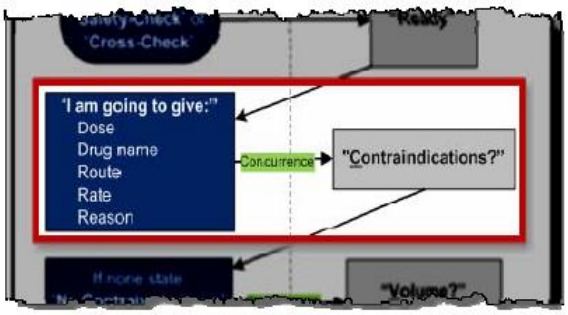



Figure 2

6. A verification of contraindications is meant to stop any errors that may occur due to expired medication, known patient drug allergies, as well as relative contraindications such as medical history or prescribed drug interactions, creating a shared awareness. It is not required to verbalize contraindications unless they are present, but some providers have chosen to verify appropriate vital signs, patient drug allergy status, and expiration date out loud anyway (see Figure 3).

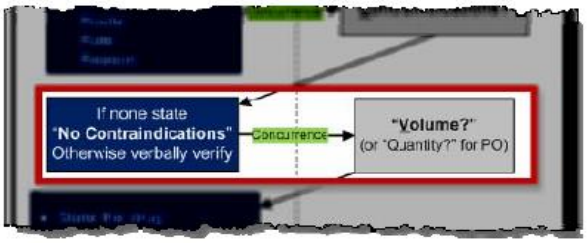



Figure 3

7. The last and final step in the process is designed to catch errors of action. Slips or lapses in behavior that may not have otherwise been corrected such that both providers can verify the volume that provider one intends to deliver and avoid the false notion that the contents of a vial are a "dose." It serves to direct the provider's attention to exactly how much liquid they intend to deliver, rather than assuming they have the appropriate dose.

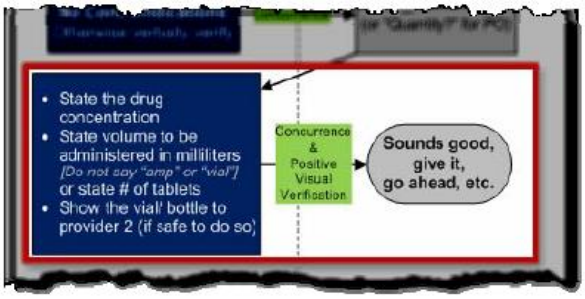



Figure 4

8. It also directs the avoidance of terms like "amp" or "vial," which could lead to an incorrect dose administration. Visual verification is designed to prevent wrong drug errors. Research has clearly demonstrated that people will see what they are prepared to see. Our organization has chosen not to mandate visual verification if there is only one provider in the back of the ambulance with the patient during transport, which could create an unsafe distraction for the driver. In this instance, the provide should make a double check of the intended dose prior to administration.

**Bottom of the Card**

The bottom portion of the card describes some of the other characteristics and expectations of the procedure and its execution.

- The first point clarifies that the term contraindications include: 1) the verification of appropriate vital signs, 2) known patient allergies, 3) expiration date
- If a discrepancy, disagreement, or need for clarification is encountered at any step in the process, it must be resolved prior to continuing the cross-check.
- It also states that: Essentially, only Provider 2 can authorize the administration of the medication by design of the procedure

- It describes that the MACC must be completed in its entirety prior to the administration of any medication.
- If there is an interruption or change in patient condition of any kind, the process must be reinitiated by Provider 1.
- If a diluent is used, the vial for the diluent should be visualized as well.
- It also reiterates the need to avoid ambiguous statements or confirmations like "okay."

**Back of the Card**

- Human Factors/ Crew Resource Management (CRM) concept of situational awareness (SA)
- Red flags as cues for lost SA
- Suggestions for verification


## DOCUMENTATION KEY POINTS

- For every medication administration, document the indications to support its use as well as pertinent patient assessment findings before and after administration.
- For any suspected medication adverse reaction, document the adverse reaction in the patient care report, actions taken, and the name of the receiving provider advised of the event.
- Complete a detailed clinical incident report separate from the patient care report for any deviations to this guideline, patient adverse reaction, or any medication administration error which is actual, suspected, or near-miss in nature. Provide suspected cause of the error or adverse reaction including steps that should be taken in the future to avoid such an event.

## NOTES

[1] A more detailed description of this procedure is found in HEMT Clinical Policy 9.5.