## APPENDIX E - TAB A

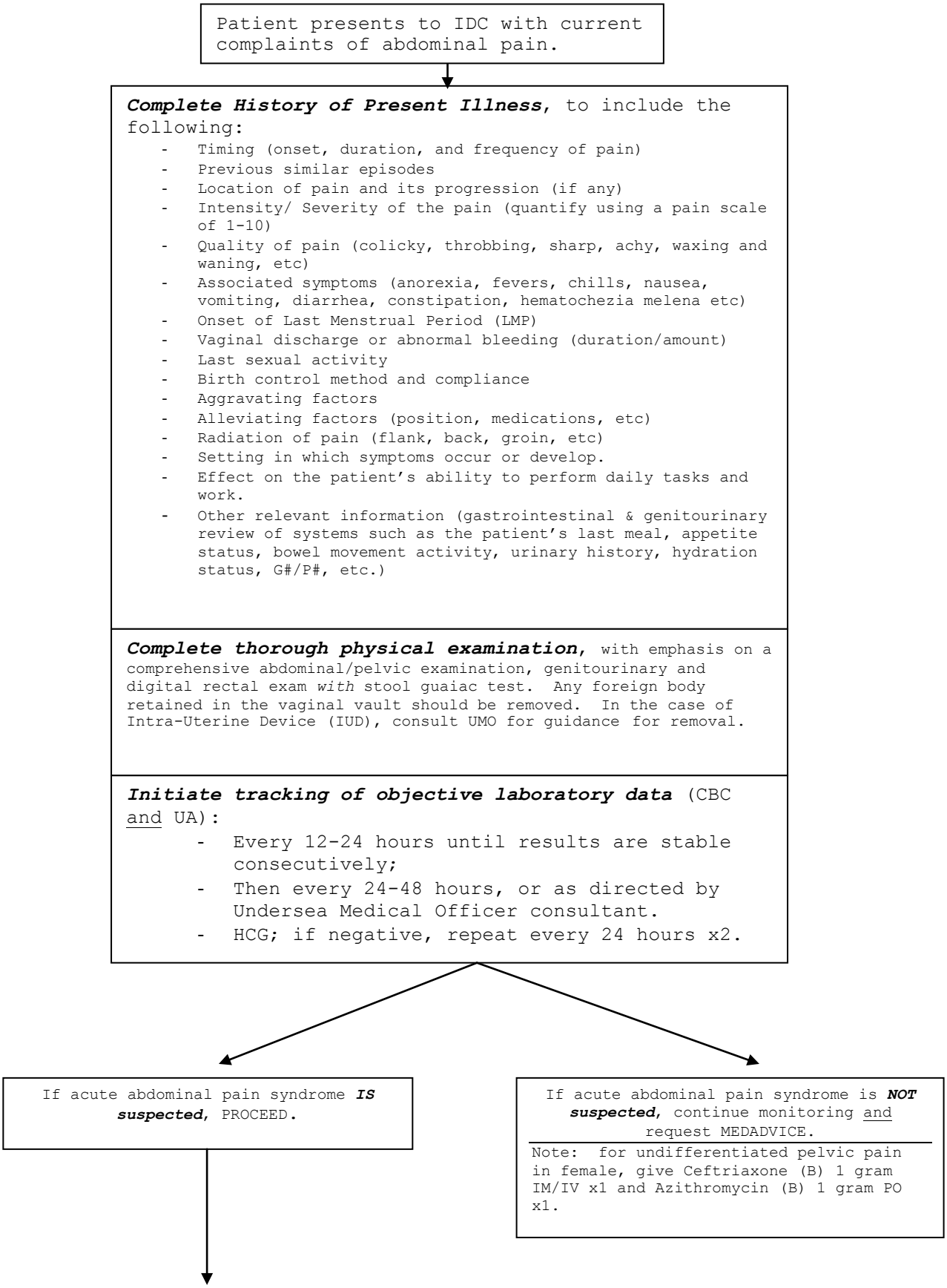
## MEDICAL TREATMENT PROTOCOL FOR ABDOMINAL PAIN SYNDROME

1. In the setting of a Sailor who presents with emergent abdominal or pelvic pain of unknown origin, the following diagnostic algorithm should be utilized for initial conservative management. The differential diagnosis for abdominal pain includes: appendicitis, diverticulitis, small bowel obstruction, ruptured ectopic pregnancy, peritonitis, pelvic inflammatory disease, endometriosis and other localized pain syndromes (e.g., colitis, mittelschmerz, adnexal torsion, ruptured ovarian cyst, tubo-ovarian abscess, cholecystitis, hepatitis and pancreatitis).

2. In recent years, the majority of submarine medical emergencies involving abdominal pain have been Sailors presenting with acute appendicitis, acute diverticulitis, and small bowel obstruction, with other, less frequently encountered, diagnoses such as hepatitis, acute cholecystitis, and pancreatitis. The integration of mixed gender crews has now expanded the differential diagnosis to include OB/GYN etiologies. Even though pathognomonic signs and symptoms can help differentiate one entity from another, the submarine environment does not lend itself to diagnostic confirmation underway due to the lack of imaging/laboratory capability and general surgical services. Furthermore, these diagnoses often present atypically, confounding the clinician’s ability to assess the patient--the ‘classic’ presentation may occur only in a minority of cases. Despite the inherent difficulties, when approached with a detailed history, complete physical examination and thoughtful consideration of the potential diagnoses, conservative management and meticulous monitoring will result in successful outcomes for the majority of these cases. The following treatment protocol has been developed to help the Independent Duty Corpsman (IDC) manage submariners presenting with an acute abdominal pain syndrome.

3. The following protocol IS NOT offered as a substitute for Consultation via MEDADVICE and prudent medical judgment on the part of the IDC. The protocol is meant to offer a recommended course of action to ensure that when a patient presents with any type of abdominal/pelvic pain potentially requiring surgical intervention, that a complete work-up is initiated and a timely care plan is started--especially in the setting where no physician consultation is readily available.

4. Abdominal Pain Management Algorithm:



***Immediately seek higher echelon medical support***:

- Transfer patient to an emergency room (if locally available). Consider use of ISOS if near foreign port and no local MTF capability. Do not delay definitive care!
- Contact ISIC medical authority via MEDEVAC or MEDADVICE message detailing ALL available clinical information.
- If patient is in extremis, utilize other on-board communications to notify higher-level medical authority, as indicated by circumstances.

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Place patient on a STRICT ***NPO Status***.

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***Initiate IV Fluid Therapy*** lactated Ringer's solution, or 0.9 Normal Saline) at 150-ml/hr and then titrate to assure a urinary output of greater than 1000 ml/day. Note: In suspected cases of Toxic Shock or other septic shock syndromes, significantly greater fluid (both bolus and rate) will be required. Only bolus with NS or LR.

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***Monitor urinary input and output*** and provide this data (if not already doing so) to the monitoring higher-level medical authority with each update report.

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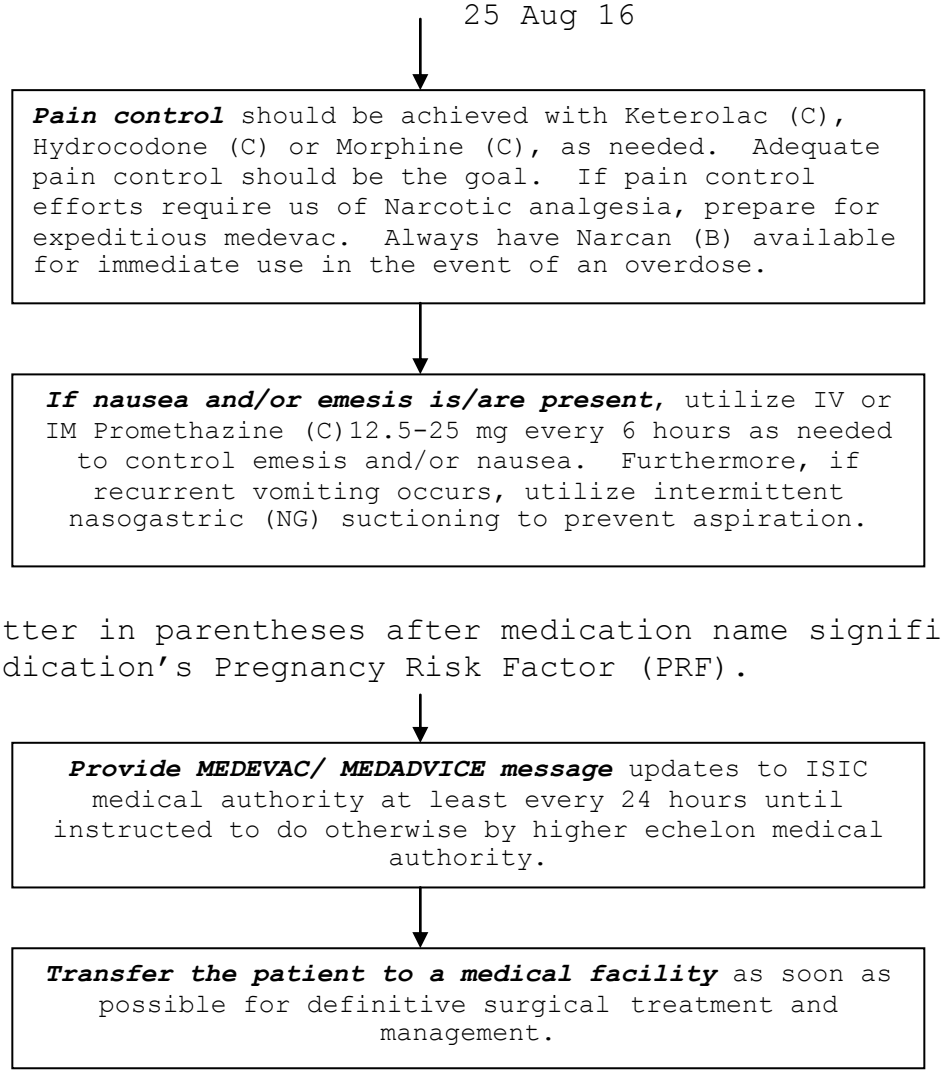
***Initiate one of the following antibiotic regimens****
depending on the availability of medications, unless otherwise directed UMO:

Regimen (1)--preferred:
Ampicillin-sulbactam (Unasyn)(B) 3 grams IV every 6 hrs
+ Gentamicin (D) 5.0 mg/kg IV every 24 hours
+ Metronidazole (Flagyl)(B) 15 mg/kg LOADING dose infused over one hour, followed by a maintenance dose of 7.5 mg/kg infused over one hour every 6 hrs.
OR

Regimen (2)--use if patient is HCG+ or has history of severe allergic rxn to PCN and/or cephalosporin:
Ciprofloxacin (C) 400 mg IV every 8 hours
+ Metronidazole (Flagyl)(B) *as above in treatment regimen (1)*
OR
Regimen (3):
Gentamicin (D) 5.0 mg/kg IV every 24 hours
+ Metronidazole (Flagyl)(B) *as above in treatment regimen (1)*




**NOTE:** Letter in parentheses after medication name signifies the medication's Pregnancy Risk Factor (PRF).




5. Medical Department personnel shall familiarize themselves with the prescribing and administration date that accompanies these medications prior to their use.

6. AMALs should be stocked with appropriate quantities of medications to ensure adequate and timely medical care.

**NOTE: Pregnancy Risk Factors represent the estimated risk of using that specific medication to the fetus. Because the number of drug studies which involve exposure to fetuses is very small, medications rarely have PRFs better than 'C'. This uncertainty regarding a drug's effect on the fetus should not preclude effective treatment of a pregnant patient, because best infant outcomes occur with a healthy mother. Rather, if two drugs are equally efficacious, the provider should choose that with the better PRF.**