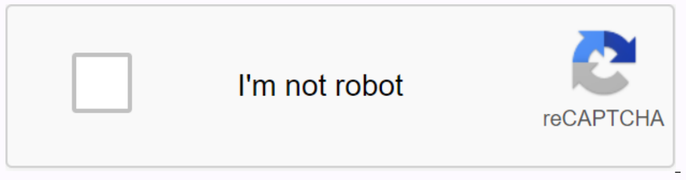

Continue

Rush exam echo

Пацієнти з гіпотензією або шоком мають високий рівень смертності, а традиційні методи фізики обстеження можуть вводити в оману. Діагностика та первинна допомога повинні бути точними та оперативними для оптимізації догляду за пацієнтами. Ультразвук ідеально підходить для оцінки критично хворих пацієнтів в шоці, і рекомендації ACEP тепер децикують нову категорію УЗД (США)- реаніматолог. Приліжкові США дозволяють безпосередньо візуалізувати патологію і диференціацію ударних станів. Протокол RUSH був вперше представлений в 2006 році Weingart SD et al, а пізніше опублікований в 2009 році. Він був розроблений, щоб бути швидким і легким у виконанні протоколу США (2 см в діаметрі і <2 minutes)= by= most= emergency= physicians.how= do= you= perform= the= rush= protocol?what= us= probes= do= you= need= for= the= rush= protocol?phased-array= probe= (3.5= –= 5= mhz)linear= probe= (7.5= –= 10= mhz)what= are= the= components= of= the= rush= protocol?the= components= of= the= rush= exam= are:= heart,= inferior= vena= cava= (ivc),= morrison's/fast= abdominal= views,= aorta,= and= pneumothorax= (hi-map).a= more= simple= method= is= to= think= of:pump= (heart):= tamponade,= lvef,= and= rv= sizetank= (intravascular):= ivc,= thoracic= and= abdominal= compartmentspipes= (large= arteries/veins):= aorta= and= femoral/popliteal= veinssummary= table(from= dr.= dina= seif's= handout= at= the= resuscitation= 2013= conference)= how= do= you= evaluate= the= pump?component:= heart= (parasternal= long= axis= view)probe:= phased= array= probe= (3.5= –= 5= mhz)location:= just= left= of= the= sternum,= 3rd= and= 4th= intercostal= spacefinding:= pericardial= effusion= (tamponade)small= effusions= are= best= identified= posterior= to= left= ventricle= (dependent= portion= of= pericardium)can= find= compression= of= the= right= ventricle= (singh= s= et= al= sens= 92%,= spec= 100%,= ppv= 100%)finding:= left= ventricular= ejection= fraction= estimationlook= at= anterior= leaflet= of= mitral= valve,= which= should= normally= touch=></2> <30% difference= of= lv= size= between= systole= and= diastole= indicates= severely= decreased= lv= functionfinding:= right= ventricular= strainnormally= rv= should= be= 60%= of= lv= size= (if= rv=LV size,= this= is= abnormal)lodato= jc= et= al:= if= mcconnell= sign= (reduction= in= rv= free= wall= motility= with= sparing= of= the= apex)= is= present ,= specificity= for= pe= is= 96%,= but= sensitivity= is= 16%.component:= heart= (subxiphoid)probe:= phased= array= probe= (3.5= –= 5= mhz)location:= subxiphoid,= point= toward= left= scapulahow= do= you= evaluate= the= tank?component:= inferior= vena= cavaprobe:= phased= array= probe= (3.5= –= 5= mhz)location:= subxiphoid,= slide= to= patient's= rightfinding:= intravascular= volume= estimationivcivc=>inspiratory колапс менше 50% приблизний CVP > 10 смН20Не застосовується для інтубовані пацієнтів. Спонтанно дихаючі пацієнти створюють негативний внутрішньоторактичний тиск. вентильовані

Create positive intratoractical pressure.Component: RAPID abdominal viewingProb: Phased probe array (3.5 – 5 MHz)Location: Hepatorental recess, Spororendal notation and bladderFinding: Internal blood lossComponent: PneumothoraxProb: Linear probe (7.5 – 10 MHz)Location: Middle-oclavicular line, 3rd – 5th interregional</30%> interregional</30%> Intrauterine compromiseNormal: Lungs and comet tails should be seen. M-Mode will look like waves on the beach. Pneuthothhorax is present: No lung slip and no comet tails. M-Mode will look like a bar schedule (without a beach). How do you evaluate pipes? Component: AortaProbe: Phase array probe (3.5 - 5 MHz)Location: Longitudinal and transverse views of the aorta at 4 levels (infraration, suprarenal, infrared and directly on the iliakia bifuracation)Measurement >3 cm is abnormal. If >5 cm is considered a rupture of AAA, if no other cause is found. Most AAAs located below the renal arterySummari RUSH Protocol are medical patients that the EFAST test is the trauma of patients. Special thanks you would like to thank Dr. Craig Sisson, director of ultrasound at UTHSCSA in San Antonio, TX for all the ultrasound images used in the post, as well as his countless hours of teaching ultrasound. LinkJones AE et al. Randomized controlled immediate trial against delayed targeted ultrasound to identify the cause of non-digestive hypotension in emergency department patients. Crit Care Med 2004 August; 32 (8): 1703–8. PMID:15286547Perera P, etc. Rush Exam: A quick ultrasound is in shock at the assessment of the critically ill. 28: 29–56. 19945597Rose JS, etc. VHF ultrasonic protocol: a new ultrasonic approach to empirical evaluation of an ineffe effective hypotensive patient. Am J Emerg Med 2001; 19: 299–302. PMID: 11447518Weingart DS. EMCrit Blog This concept was first conceived by the authors above in 2006 and discussed in national lectures in 2007 and beyond. It has been available emcrit.org since March 2008 and was the first hit on Google's RUSH Exam search since that date. It was published on Emedhome in May 2009. Rapid ultrasound for shock and hypotension Is now the standard of care for targeted assessment using sonography for trauma (FAST) in the early stages of assessing a patient with trauma. There seems to be much less urgency to use ultrasound to assess a medical patient with hypotension or signs of shock. We believe that part of the reason for this discrepancy is the lack of an accepted way of linking to the exam and standardised sequencing. In this paper, we outline the components and justifications for rapid ultrasound to survey shock and hypotension (RUSH). Rose and others in 2001. (1) In 2004, Jones and others. (2) This study showed a decrease in the number of conditions to be ruled out, as well as a faster time for definitive diagnosis. Recently, additional articles discussed the use of focused ultrasounds for cardiac arrest (3) and the shock of patients without obvious etiology. (4) By trying to conglomerate all the different ultrasound diagnostic methods applied to these patients in a memorable approach, we have created Exam. The RUSH exam was designed to be quick and easy to perform with handheld machines found in most emergency departments (ED). The components of the exam are the heart, lower vein coffee (IVC), Morison/FAST's views on the abdominal cavity with chest windows, aorta and pneumothorax scans. These components can be recalled using mnemonic: HI-MAP. This mnemonik also describes exam sequencing. We will discuss in detail each of the components below. Heart Heart Part of RUSH exam assesses pericardial effusion/tamponade; insufficiency of the right ventilate, in a sign of pulmonary thromboembolism; and qualitative evaluation of the function of the left stomach. Used echocardiographic views are a parasterl long axis and four cameras. To position the probe and examples of normal exams, we recommend the Yale Atlas of Echocardiography (Parasternal Long View25, 4-chamber View26) Parastern's long-view pericardial tamponade used to assess the pericardial fluid best identified by the back of the left stomach and the front front to the descending aorta. In conditions of shock and hypotension, more than tracer pericardial fluid should increase suspicion of pericardial tamponide. However, experienced ultrasound can assess this condition directly. In the same long-looking parastern, if there is a collapse of the right atrium during diastole (sensitive) and right stomach during early diastole (specific), the diagnosis is more likely to be tamponade. (5.6) If a swab is diagnosed, ultrasound may also assist in the performance of pericardiocentesis. Ideally, a large pocket of fluid with a good amount of space between pericardium and the heart will be identified, without a mobile lung. This area may be sub-xiphoid, but more often it is on the chest wall. Ultrasonic pericardiocentesis is safer than the blind sub-xiphoid procedure. (7-9) Right stomach augmentation Rarely a actual clot can be visualized during transtoracic echocardiography (TTE), but a massive pulmonary embola is more likely to penetrate only with indirect signs. PP is significant enough to cause shock, often accompanied by signs of acute right ventricular failure. An enlarged right ventricle on four chambers indicates right ventricular failure (RVF) as one of the contributors to the patient's shock condition. RVF can be caused by many entities, but when acute in shock conditions, the most likely diagnoses are massive pulmonary thromboembolism and right stomach infarction. The right ventrau is usually less than 60% the size of the left stomach. When the size of the revisions is equal to or exceeds LV, RV failure should be suspected. This epont refers to the reduction of free movement of the walls with a revision with a horror top. (10) Increased right stomach may also occur from a right stomach infarction. This diagnosis often tests with signs wall infarction on an electrocardiogram and may have associated left cervical dysfunction. However, cardiogenic shock may occur due to isolating right ventlious failure without associated ECGs or left stomach abnormalities. (11) Hypodynamic left ventitol In hypotension, qualitative evaluation of LV function may indicate cardiogenic cause. Poor LV function can be the result of a major problem, such as heart attack or myopathy. Or it can be secondary to conditions such as sepsis or toxins. While more complex procedures allow for a numerical assessment of the ejection fraction, in the face of hypotension, visual evaluation is often put forward. (12) In parastern long view, at papillary muscle level, < 30%= difference= between= the= size= of= the= lv= in= systole= and= diastole= indicates= a= severely= felled= lv= function= ((end= diastolic= size-end= systolic= size)/end= diastolic= size).= after= a= witnessing= a= reasonable= number= of= normal= and= abnormal= exams,= this= estimation= can= be= made = after= a= few seconds= seconds of= seeing= the = heart's= function. (13)= hyperdynamic= left= ventricle= in= the= same= echocardiographic= view= just= mentioned,= if= the= left= ventriclular= walls= change=> 90% between systoll and diastole or if they are actually touched at the end of the table, then LV is hyperdynamic. This can be seen with hypovolaemia, acute blood loss and often sepsis prior to vasopressors. These patients tend to benefit from volume load. Inferior Wena Coffee IVC score may evaluate a patient's volume condition. The exam described below is a dynamic assessment of breath-based filling pressure. The examination is carried out differently depending on whether the patient spontaneously breathes or receives mandatory breaths from the ventilator. Spontaneously breathable IVC patients should first be placed in longitudinal orientation in the sub-xiphoid zone. By placing the probe just under xiphoid and sliding 1-2 cm to the patient's right, IVC should be easily located. The exam concentrates on IVC, which surpasses the influx of drunken veins. Both IVC diameter and response to patient inspiration are considered. The latter is often best evaluated using an ultrasound regimen. The IVC part of the exam allows both a central venous pressure assessment (CVP) and predicts a useful response to bucosa fluid. IVC diameter <1.5 cm= with= complete= inspiratory= collapse= is= associated= with= a= response= to= volume= loading= and= these= findings= are= associated= with= a= low= cvp=></1.5> <5). (14-16) conversely,=an=ivc=diameter= of=>2.5 cm without a giggle collapse represents a high CVP (>20), and the patient is unlikely to increase their cardiac output in response to fluid loading. (14,16,17) If the patient is intraductively depleted in this setting, they will need drugs to increase inotropy or reduce their postload before fluids are useful. Mechanically ventilated patients as opposed to </5). (14-16)>respiratory patients, mechanical inspiration causes IVC to increase. The difference between the size of the spindle and the IVC dedator can be used to assess the need to load liquid. In order to accurately evaluate IVC in ventilated patients, they should be suffused enough not to take spontaneous inhales during measurement. In addition, the ventilator should be adjusted for the delivery of 10 ml/kg of the volume of tinge. Even in patients with acute lung damage, placing the patient on this volume of tally for ~20 seconds of measurement will not lead to bad consequences. The patient should be returned to the previous ventilator parameters after an IVC assessment. Many studies have assessed IVC diameter changes as measuring the reaction to fluid loading. (18,19) Unfortunately, these studies calculated their cut-off points using different formulas. A simpler formula is ((Insp size is Exp size)/Exp size). (18) The result is expressed as a percentage; with this formula, clipping changes by 18%. Values greater than this involve increasing cardiac output to a fluid problem. Morison's and FAST Exam Views with Hemothorax Windows Ambulance Doctors are familiar with fast exam views. Visualization of free fluid in the right upper quadrant, left upper quadrant, and apacular area may provide a clue to many diagnoses such as ectopic pregnancy, massive ascites, viscus rupture, spontaneous intraabdominal bleeding, intraperitoneal rupture of AAA, etc. If there is no time to complete all these views, the image of Morison's pouch with the patient in trendelenberg position is sensitive to significant intraperitoneal blood or fluid. (21) When performing an upper quadrant, rubbing the probe to the chest to image the diaphragm/lung interface detects the presence of fluid or blood in the hemitorax. (20) Aorta Abdominal aortic scan for an aneurysm (AAA) is one of the key emergency ultrasonic modal modalities. We prefer to scan the aorta in transverse orientation on four levels: just below the heart, suprarenal, infrared, and just before the iliakia bifuracation. (22.23) By moving the probe down from xiphoid to umblicus, these four views can be obtained continuously and quickly. If Aorta is >5cm in any of these views and the patient is in shock, the diagnosis of the AAA rupture has not yet been proven otherwise. Pneumothorax Although much more likely to be an injury, strained pneumothorax may be causing shock in medical patients, especially if the patient recently had a procedure such as center line placement of a pacemaker or toracentesis. Longitudinal check in the 3rd inter-regional space of the 3rd inter-regional space on both thoracic paths with the help of a high-frequency probe. (20) We found visualization in M mode to make for the simplest interpretation. The ocean/beach or coast sign assures that there is no pneuthothorax at the location of the probe. (20) If there is a continuous ocean pattern sign), then pneumothorax pneumothorax One caveat in intubated patients: intubation of right bronchial tubes can lead to the mistaken appearance of pneumothorax over the left chest due to the lack of movement of the left lung. (24) Sequencing This entire exam can be completed in less than 2 minutes using easily accessible handheld machines. We're going ok with the abbreviation HI-MAP. 1. Heart: Parastern is long, followed by 4 chamber cardiac views, with general purpose or cardiac probe 2. View IVC with the same probe 3. If it's not already in use, go for a general abdominal probe and scan Morison's looks and sporeends with chest images, then inspect the bladder window. 4. Increase the depth and find the aorta above and below the renal artery with four views. 5. Scan both sides of the chest for pneuthorax. This can be useful for switching to small parts, a high-frequency sensor, but a general purpose probe will often supply sufficient pleural interface views. At the end of the exam RUSH provides a sequenced approach to ultrasound in a patient with medical shock. Using HI-MAP components, we can evaluate causes and potential responses to treatment of hypotension and tissue malperfusion. Let's hope it will inspire the same allacterium to perform ultrasounds in non-traumatic patients, as the FAST test has traumatic instability. Reference 1: Rose JS, Bair A.E., Mandavia D, and others. Ultrasound UTP: A new ultrasonic approach to empirical evaluation of an ineffe effective hypotensive patient. Am J Emerg Med. 2001;19:299-302. 2. Jones A.E., Tayal VS, Sullivan DM, etc. Randomized controlled trial of immediate and delayed targeted ultrasound to identify the cause of non-digestive hypotension in patients with emergency departments. Crit Care Med. 2004;32:1703-1708. 3. 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