

# Development of a Systematic, Evidence-Based Guiding Fieldwork Tool to Increase Student Competency in an Acute Care and ICU setting

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## BACKGROUND

Cheyenne Regional Medical Center (CRMC) is a 222 bed Level 2 Trauma hospital located Cheyenne, WY. The hospital offers orthopedic, neurology, telemetry, oncology, medical, surgical and intensive care services. The therapy department is able to host a total of 4 students, currently using a brief student manual for knowledge and weekly objectives related to acute care. Based on a needs assessment and staff report a more a comprehensive and standardized student manual is warranted. According to Knecht-Sabes (2013), students often feel overwhelmed and unprepared for acute care setting due to the fast pace and high complexity of patient management. This often causes anxiety negativity influencing clinical judgement and decision making (Thomas et al., 2017). Additionally literatures suggests there is national shortage of placements and available fieldwork educators, as well as shortage of therapists willing to work in intensive care environments (Evenson, M. E., Roberts, M., Kaldenberg, J., Barnes, M. A., & Ozelie, R, 2015; Gibbs, D. M., Dietrich, M., & Dagnan, E, 2017). Willingness to accept students are affected by student readiness, own lack of confidence, productivity, and other factors. The systematic, evidence based guided fieldwork tool can improve both student and practitioner competence and confidence. Current literature supports the use of simulation, experiential, and problem-based learning to increase student outcomes in acute care settings (Gibbs, D. M., Dietrich, M., & Dagnan, E, 2017).

## PROGRAM DETAILS

The development of the systematic, evidence-based guided fieldwork manual was created to bridge the gap between didactic work and fieldwork education to increase student competency in acute care and ICU settings; as well as support fieldwork educators (FWEDs). The student manual utilizes evidence-based learning strategies to fit all learning styles and provide comprehensive understanding and competence in acute care. The weekly objectives adhere to American Occupational Therapy Association (AOTA) standards and literature-based competencies in acute care and intensive care (ICU) setting.

The manual applies 4 key learning styles to improve speed and quality of student comprehension.

- Simulation/kinesthetic → Transfer techniques
- Problem-based→ Case studies
- Experiential→ Weekly objectives
- Reading→ Journal articles

The manual includes the following content and domains:

- Weekly objectives
- Information guides
- Literature matrix
- Learning activities
- Service specific information
- Evidence-based articles supporting topics
- ICU comparison sheet

## FOCUSED QUESTION

What resources can be provided to a rural regional level 2 trauma hospital to increase student and entry-level practitioner competence and confidence in acute care ?

## METHODS

### Needs Assessment

- ICU protocol and competencies
- Student protocols
- Current hospital resources
- Personal self-assessment
- Analyzing AOTA standards
- Disseminating and outlining important information regarding acute care

### Literature Review

- Academic Search Premier and PubMed
  - Line management- adverse events, acute care, ICU, medical errors)
  - ICU -early mobilization, ICU, outcomes, occupational therapy
  - Acute care- acute care, occupational therapy
- Interviewing surrounding ICU experts
  - Cheyenne Regional Medical Center
  - Poudre Valley Hospital
  - Regional West Medical Center
- Summarizing acute care competencies

### Results and Resources

- Weekly objectives
- Inpatient acute care reference guide
- Line management resource
- ICU literature matrix
- Learning activities
- ICU comparison sheet
- Student ICU objectives
- Service specific information
- Evidence-based articles supporting topics
- Information guides

## RESULTS

The direct outcomes of the manual includes resources, guiding educational tools, and information related to acute care and ICU:

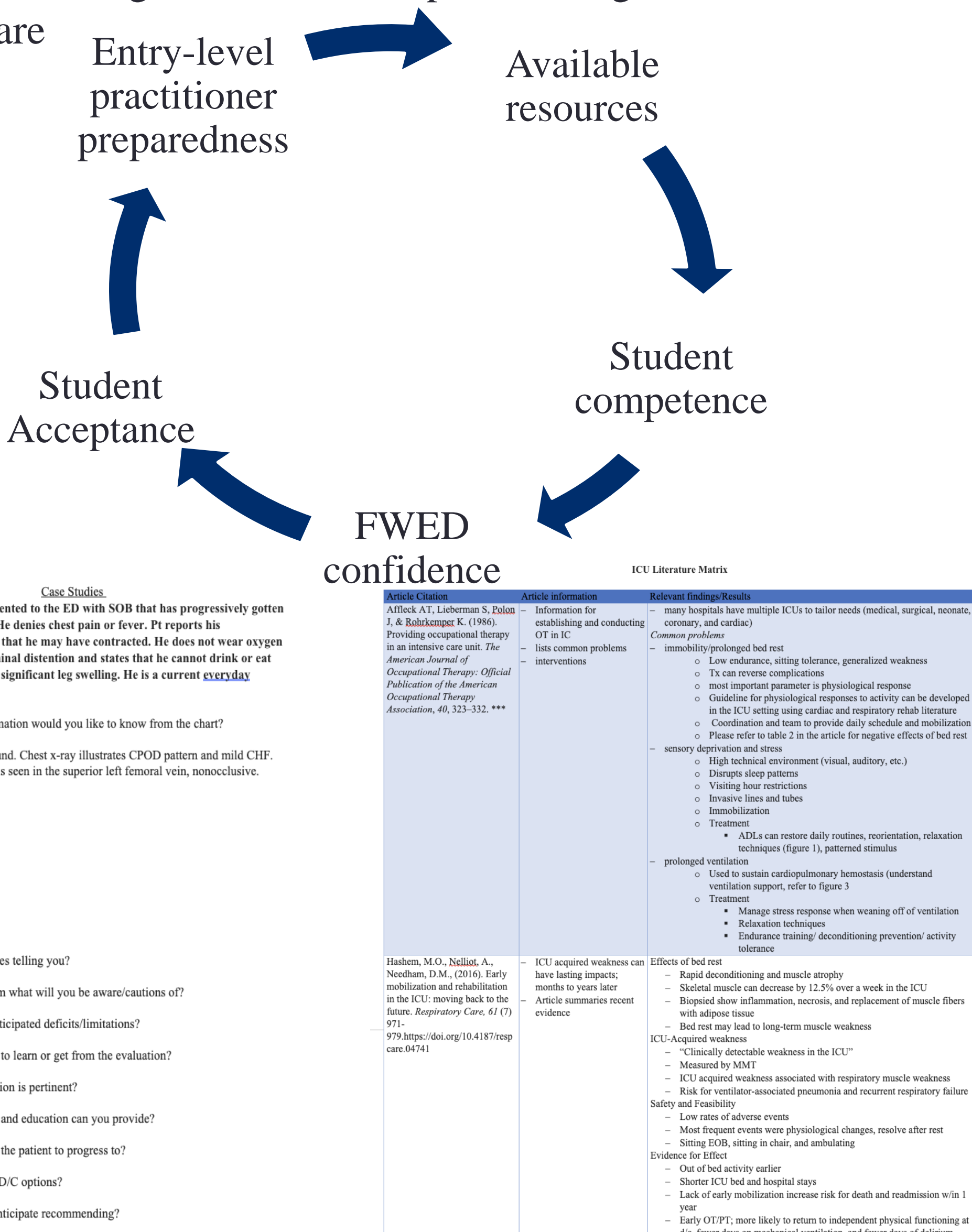
- 624-page educational tool
- 12 Weekly objectives and ICU objectives
- 20+ Evidence-based articles
- Information Guides(common diagnoses, line management, wound care, lymphedema, modalities, medications, dietary restrictions, and orthopedic braces)
- 8 Case Study learning activities
- CRMC specific protocols and details
- Information regarding acute care (evaluations, treatment, intervention)
- Community Resources
- Service Specific Information (cardiopulmonary, ICU, orthopedic, oncology, and neurology)
- ICU comparison sheet
- Literature Matrixes

The *short-term* results of the program are as follows:

- 12-week standardized evidence-based fieldwork manual adhering to AOTA standards and acute care competencies
- Increased FWED confidence in accepting level 2 fieldwork student in acute care and ICU setting
- More available resources for future students
- Learning activities to meet different learning styles
- Increase practitioner awareness and self-evaluation of current practice and areas for improvement
- Creation of Student and ICU protocols

The *long-term goal* for this project is to:

- Increase student competency and confidence
- Minimizing student anxiety regarding acute care
- Increasing student clinical reasoning “in the moment”
- Decreasing adverse events and errors/ increase patient safety
- Increasing amount of therapists willing to work in intensive care



# Inpatient Quick Reference Guide

Units	Time	Normal Lab Values	Abnormal Values	Abnormal Values	
1	10:00	BP	100-120/60-80	BP	100-120/60-80
2	10:00	HR	60-100	HR	60-100
3	10:00	RR	12-20	RR	12-20
4	10:00	SpO2	95-100	SpO2	95-100
5	10:00	Temp	98.6-100.6	Temp	98.6-100.6
6	10:00	Weight	150-180	Weight	150-180
7	10:00	Height	5'6"-5'10"	Height	5'6"-5'10"
8	10:00	Head	54-58	Head	54-58
9	10:00	Neck	15-18	Neck	15-18
10	10:00	Chest	34-36	Chest	34-36
11	10:00	Abdomen	Soft	Abdomen	Soft
12	10:00	Extremities	Warm	Extremities	Warm
13	10:00	Genitals	Normal	Genitals	Normal
14	10:00	Rectum	Normal	Rectum	Normal
15	10:00	Uterus	Normal	Uterus	Normal
16	10:00	Vagina	Normal	Vagina	Normal
17	10:00	Perineum	Normal	Perineum	Normal
18	10:00	Anal	Normal	Anal	Normal
19	10:00	Urethra	Normal	Urethra	Normal
20	10:00	Bladder	Normal	Bladder	Normal
21	10:00	Prostate	Normal	Prostate	Normal
22	10:00	Penis	Normal	Penis	Normal
23	10:00	Scrotum	Normal	Scrotum	Normal
24	10:00	Testes	Normal	Testes	Normal
25	10:00	Epididymis	Normal	Epididymis	Normal
26	10:00	Vas Deferens	Normal	Vas Deferens	Normal
27	10:00	Seminal Vesicle	Normal	Seminal Vesicle	Normal
28	10:00	Prostate Gland	Normal	Prostate Gland	Normal
29	10:00	Utricle	Normal	Utricle	Normal
30	10:00	Penis	Normal	Penis	Normal
31	10:00	Scrotum	Normal	Scrotum	Normal
32	10:00	Testes	Normal	Testes	Normal
33	10:00	Epididymis	Normal	Epididymis	Normal
34	10:00	Vas Deferens	Normal	Vas Deferens	Normal
35	10:00	Seminal Vesicle	Normal	Seminal Vesicle	Normal
36	10:00	Prostate Gland	Normal	Prostate Gland	Normal
37	10:00	Utricle	Normal	Utricle	Normal
38	10:00	Penis	Normal	Penis	Normal
39	10:00	Scrotum	Normal	Scrotum	Normal
40	10:00	Testes	Normal	Testes	Normal
41	10:00	Epididymis	Normal	Epididymis	Normal
42	10:00	Vas Deferens	Normal	Vas Deferens	Normal
43	10:00	Seminal Vesicle	Normal	Seminal Vesicle	Normal
44	10:00	Prostate Gland	Normal	Prostate Gland	Normal
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49	10:00	Epididymis	Normal	Epididymis	Normal
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59	10:00	Seminal Vesicle	Normal	Seminal Vesicle	Normal
60	10:00	Prostate Gland	Normal	Prostate Gland	Normal
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76	10:00	Prostate Gland	Normal	Prostate Gland	Normal
77	10:00	Utricle	Normal	Utricle	Normal
78	10:00	Penis	Normal	Penis	Normal
79	10:00	Scrotum	Normal	Scrotum	Normal
80	10:00	Testes	Normal	Testes	Normal
81	10:00	Epididymis	Normal	Epididymis	Normal
82	10:00	Vas Deferens	Normal	Vas Deferens	Normal
83	10:00	Seminal Vesicle	Normal	Seminal Vesicle	Normal
84	10:00	Prostate Gland	Normal	Prostate Gland	Normal
85	10:00	Utricle	Normal	Utricle	Normal
86	10:00	Penis	Normal	Penis	Normal
87	10:00	Scrotum	Normal	Scrotum	Normal
88	10:00	Testes	Normal	Testes	Normal
89	10:00	Epididymis	Normal	Epididymis	Normal
90	10:00	Vas Deferens	Normal	Vas Deferens	Normal
91	10:00	Seminal Vesicle	Normal	Seminal Vesicle	Normal
92	10:00	Prostate Gland	Normal	Prostate Gland	Normal
93	10:00	Utricle	Normal	Utricle	Normal
94	10:00	Penis	Normal	Penis	Normal
95	10:00	Scrotum	Normal	Scrotum	Normal
96	10:00	Testes	Normal	Testes	Normal
97	10:00	Epididymis	Normal	Epididymis	Normal
98	10:00	Vas Deferens	Normal	Vas Deferens	Normal
99	10:00	Seminal Vesicle	Normal	Seminal Vesicle	Normal
100	10:00	Prostate Gland	Normal	Prostate Gland	Normal

**Cannulation**

- Positioning oxygen cannula in large nostril
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