PERIOPERAČNÍ MEDICÍNA

–

proč má význam uvažovat o změně paradigmatu

JAN BENEŠ
OLGA SMÉKALOVÁ, JAN ZATLOUKAL

KARIM LFP UK a FN Plzeň

WIKIPEDIA

- Perioperační medicína zahrnuje péči o pacienta, který se připravuje na operaci, podstupuje operaci a zotavuje se z operace.
- V praxi na perioperační medicíně spolupracují chirurg, anesteziolog, intenzivista a další konziliáři.
- Lékařské znalosti pro tento obor zahrnují znalosti o operačních rizicích a komplikacích, o rizicích specifických pro pacienty, o metodách ke snížení rizika a o zvládání lékařských onemocnění během tohoto časového období.
- Důkazy podporující osvědčené postupy v perioperační medicíně se rozšiřují, i když historicky byla tato oblast řízena běžnou praxí a zkušenostmi. Zůstává oborem ovládaným především uměním medicíny (the art of medicine).

VAROVÁNÍ !!!

TATO PŘEDNÁŠKA OBJEVÍ AMERI

MILÍ WATSONE – NENÍ TROCHU ZPOZDILÉ OBJEVOVAT AMERIKU V ROCE 2021 ?!?!?

PERSPEKTIVA

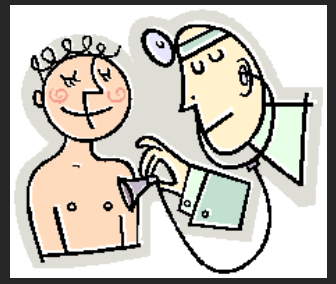
- OPTIKOU ANESTEZIOLOGA
- VELKÉ (MOŽNÁ AŽ PŘÍLIŠ) NEMOCNICE
- V ČESKÉM ZDRAVOTNÍM SYSTÉMU

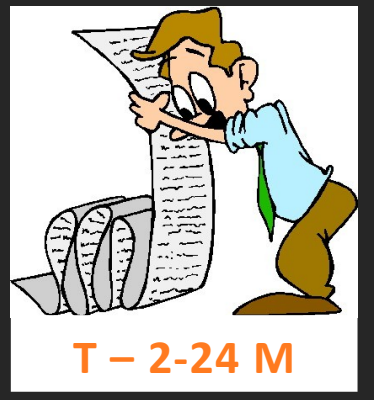
- OSOBY, KTERÁ MÁ SVÉ PŘEDSTAVY O TOM, JAK BY SE MĚLA DĚLAT MEDICÍNA…

JAK BY MĚL ČLOVĚK DĚLAT MEDICÍNU ???

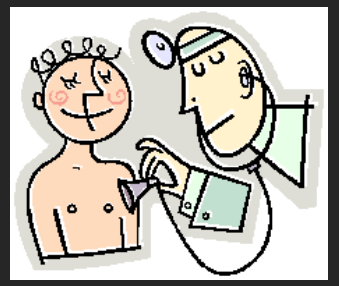
- PODLE TOHO CO SE NAUČIL VE ŠKOLE / PŘEČETL SI V KNÍŽKÁCH
- PODLE STARŠÍCH KOLEGŮ / TAK JAK JE TO ZAVEDENO
- PODLE TOHO CO MINULE FUNGOVALO
- PODLE NEJNOVĚJŠÍ EVIDENCE A RECENTNÍCH STUDIÍ
- PODLE TOHO CO DÁVÁ FYZIOLOGICKY SMYSL
- PODLE DOPORUČENÝCH POSTUPŮ
- PODLE SVÉHO NEJLEPŠÍHO VĚDOMÍ A SVĚDOMÍ

- PODLE TOHO JAK BY CHTĚL, ABY BYLA DĚLÁNA JEMU NEBO JEHO MAMINCE ČI DÍTĚTI...

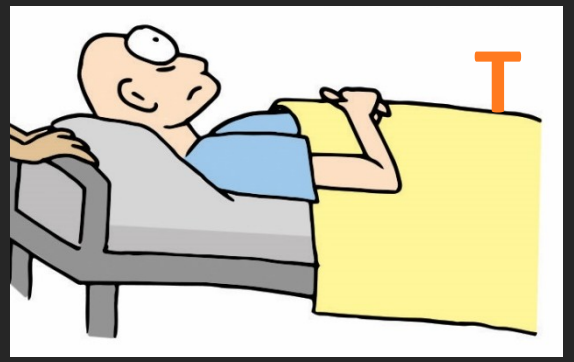




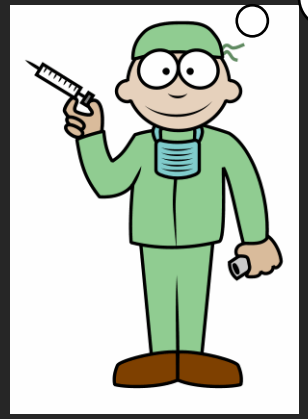
T – 2-24 M

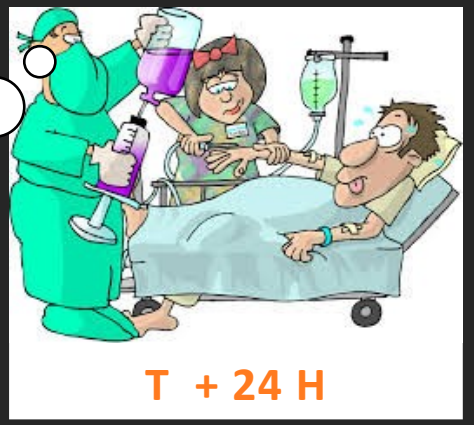


T – 2/4 dny

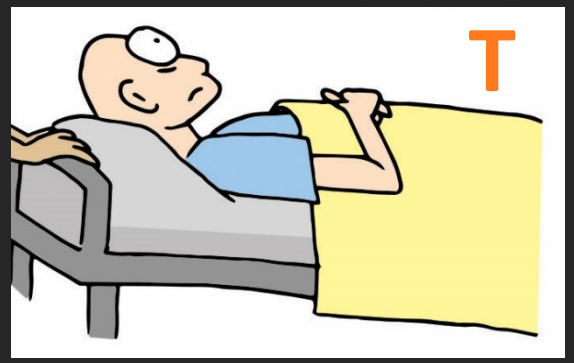


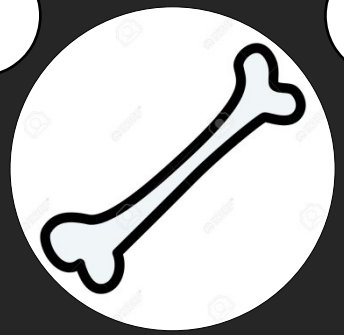
T – 14 dní

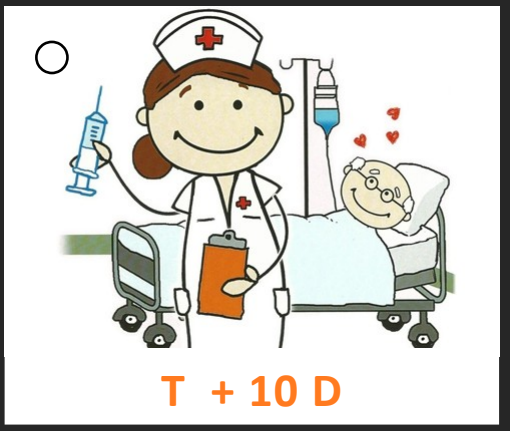




T + 24 H



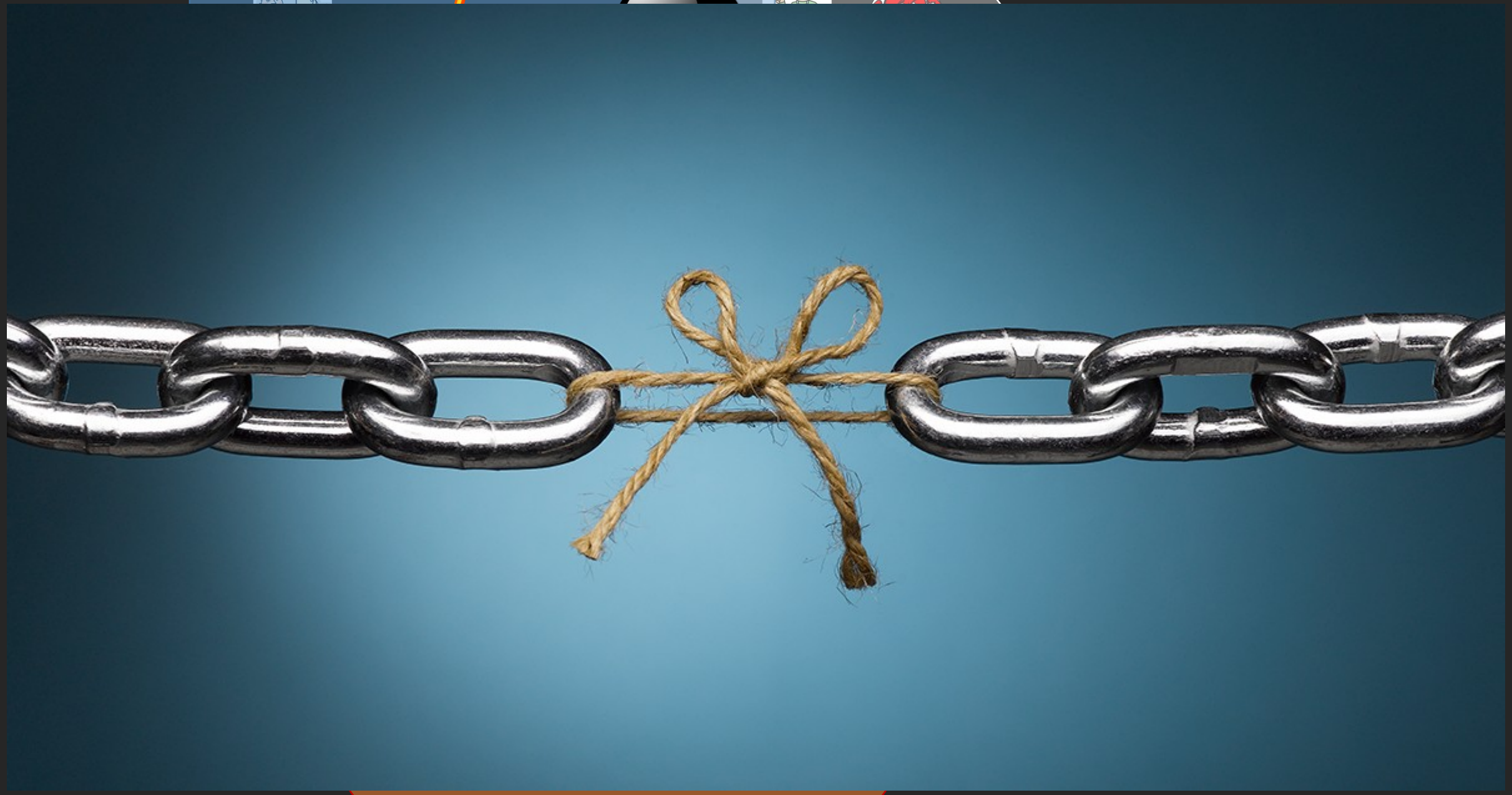


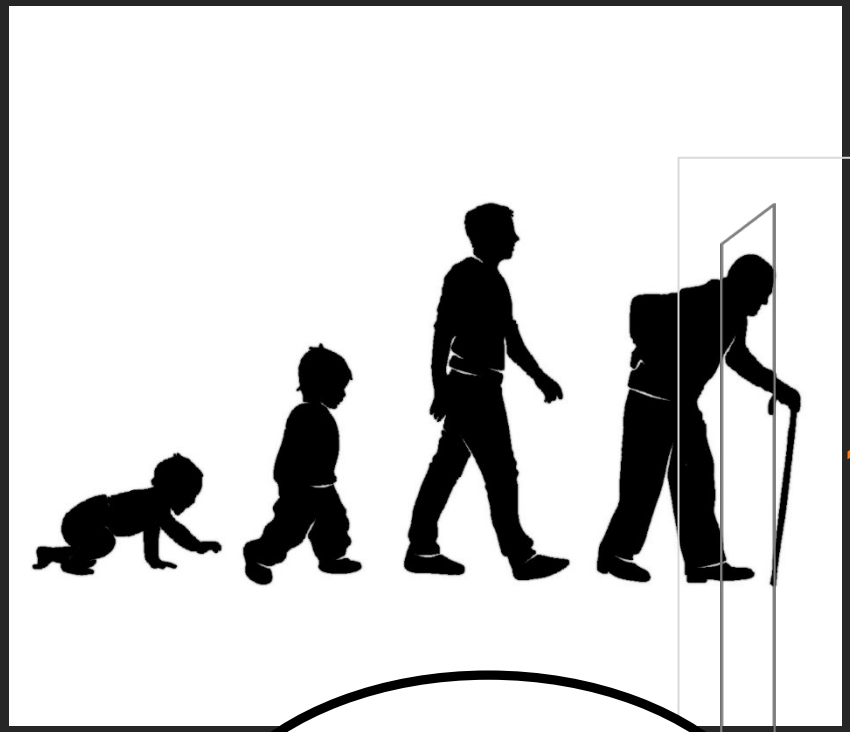


T + 10 D

T + 10 D

T – 3-12 M

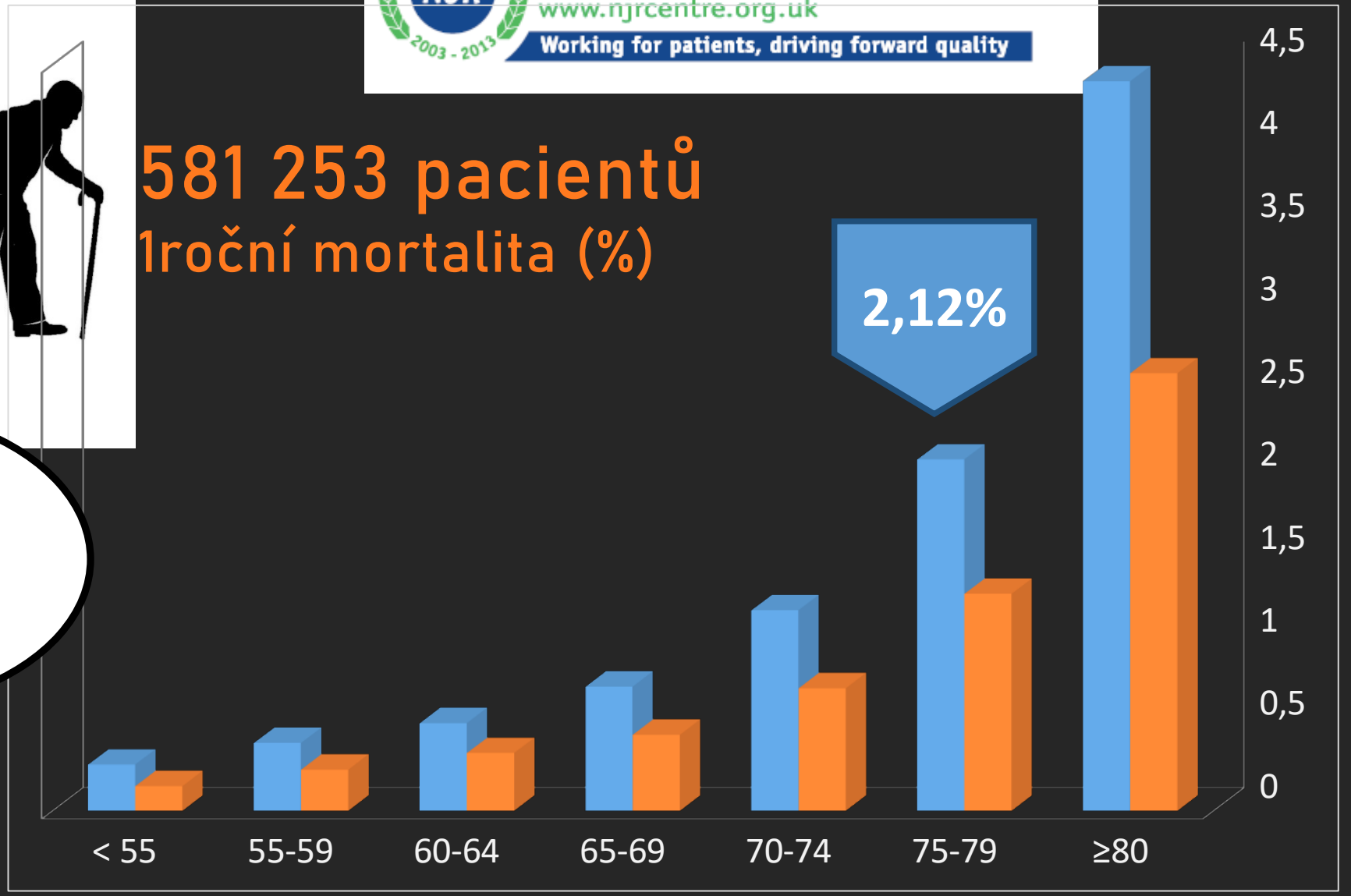




National Joint Registry
www.njrcentre.org.uk
Working for patients, driving forward quality

581 253 pacientů

1roční mortalita (%)



The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 OCTOBER 22, 2015 VOL. 373 NO. 17

A Randomized, Controlled Trial of Total Knee Replacement

Søren T. Skou, P.T., Ph.D., Ewa M. Roos, P.T., Ph.D., Mogens B. Laursen, M.D., Ph.D., Michael S. Rathleff, P.T., Ph.D., Lars Arendt-Nielsen, Ph.D., D.M.Sc., Ole Simonsen, M.D., D.M.Sc., and Sten Rasmussen, M.D., Ph.D.

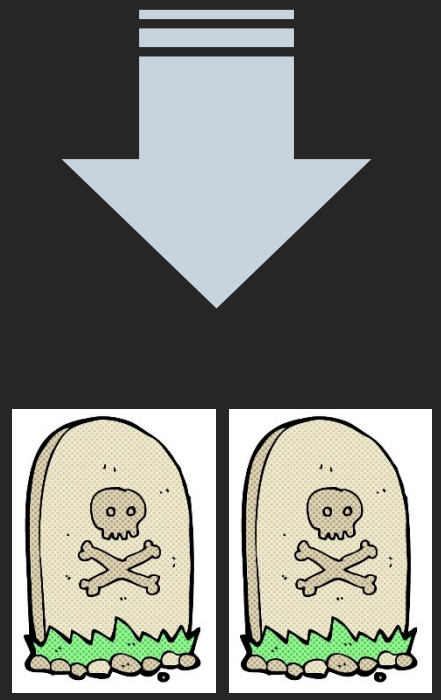
12M fyzio

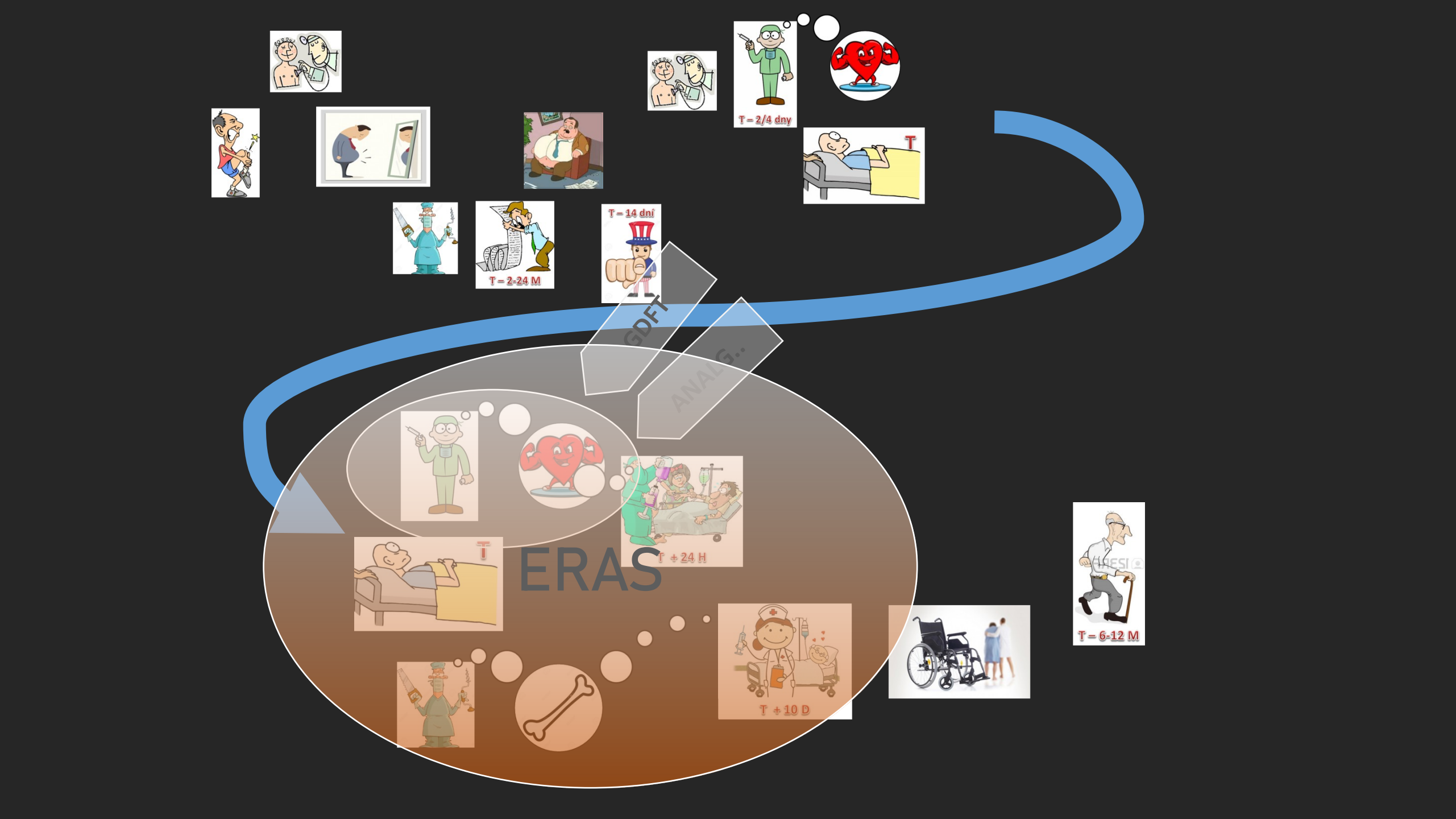
TEP + 12M fyzio

Secondary outcomes				
KOOS subscale scores				
Pain	180	194	17.2 (10.4 to 24.1)	34.8 (28.1 to 41.5)
Symptoms	179	194	11.4 (4.4 to 18.4)	26.4 (21.5 to 31.4)
Activities of daily living	180	193	17.6 (11.4 to 23.9)	30.0 (22.7 to 37.2)
Quality of life	180	194	17.8 (11.2 to 24.4)	38.2 (30.6 to 45.8)
Sports and recreation	177	193	19.3 (10.8 to 27.7)	34.5 (27.9 to 41.0)

Table 3. Serious Adverse Events.*

Events	Nonsurgical-Treatment Group	Total-Knee-Replacement Group	P Value
	no. of events		
Overall	6	24	0.005

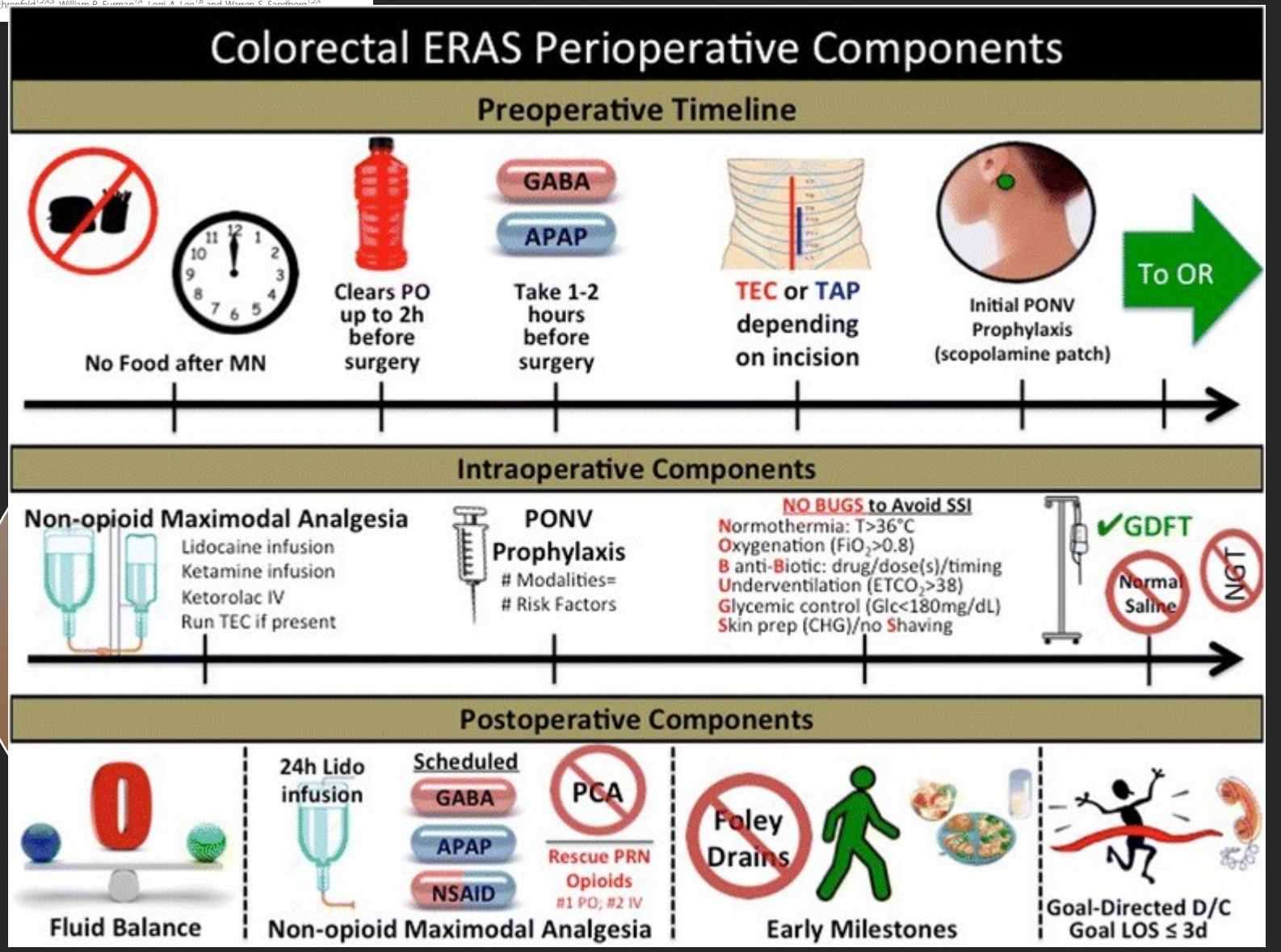



T – 2/4 dny
T
T – 14 dní
T – 2-24 M
GDFT
ANALG..
ERAS
T + 24 H
T
T + 10 D
T – 6-12 M

RESEARCH Open Access

A perioperative consult service results in reduction in cost and length of stay for colorectal surgical patients: evidence from a healthcare redesign project

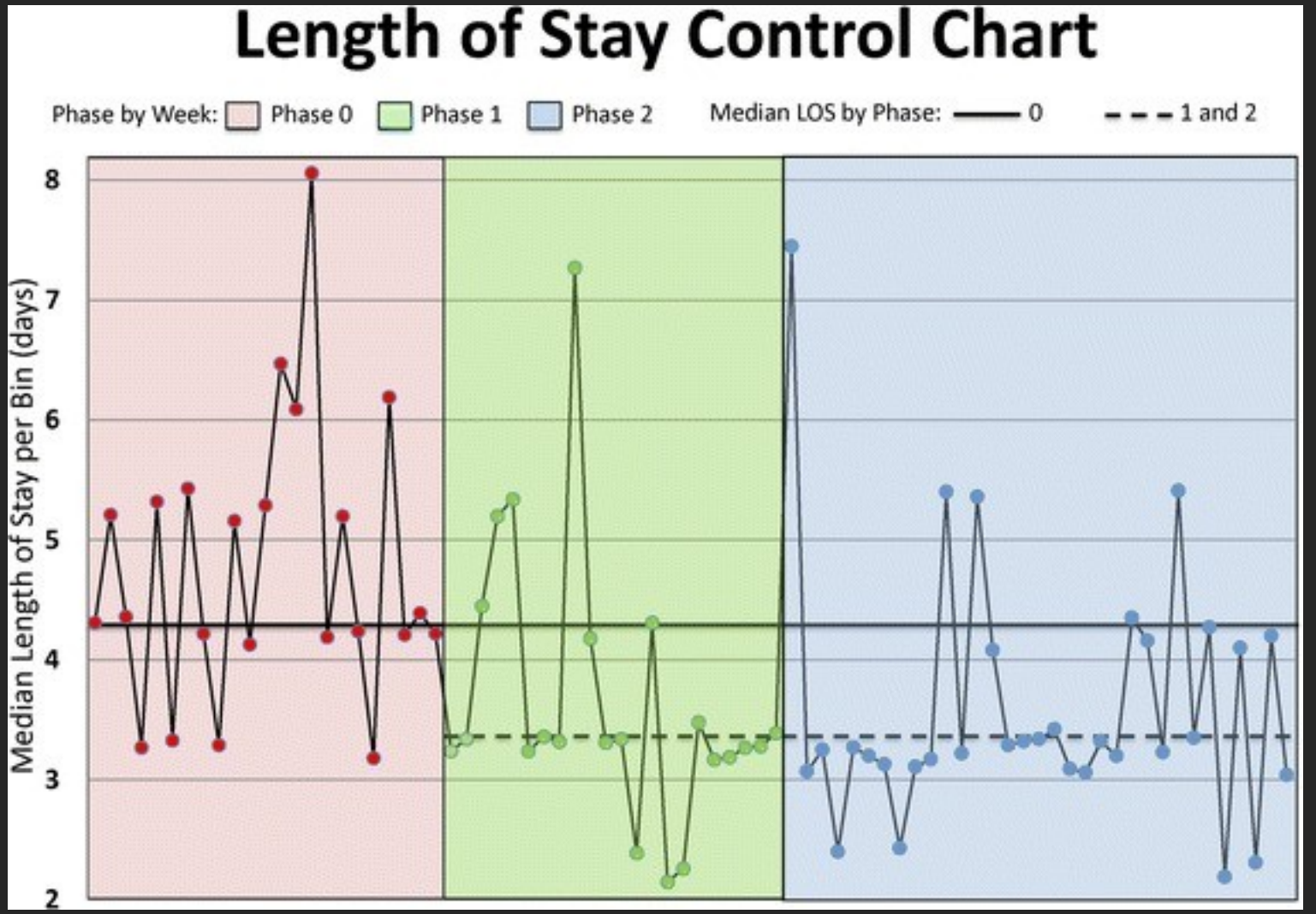
Matthew D. McEvoy[1*], Jonathan P. Wanderer[1,2], Adam B. King[1], Timothy M. Geiger[3], Vikram Tiwari[1,2], Maxim Terekhov[1], Jesse M. Ehrenfeld[1,2,4,5], William R. Furman[1,4], Lori A. Lee[1,6] and Warren S. Sandberg[1,2,4]

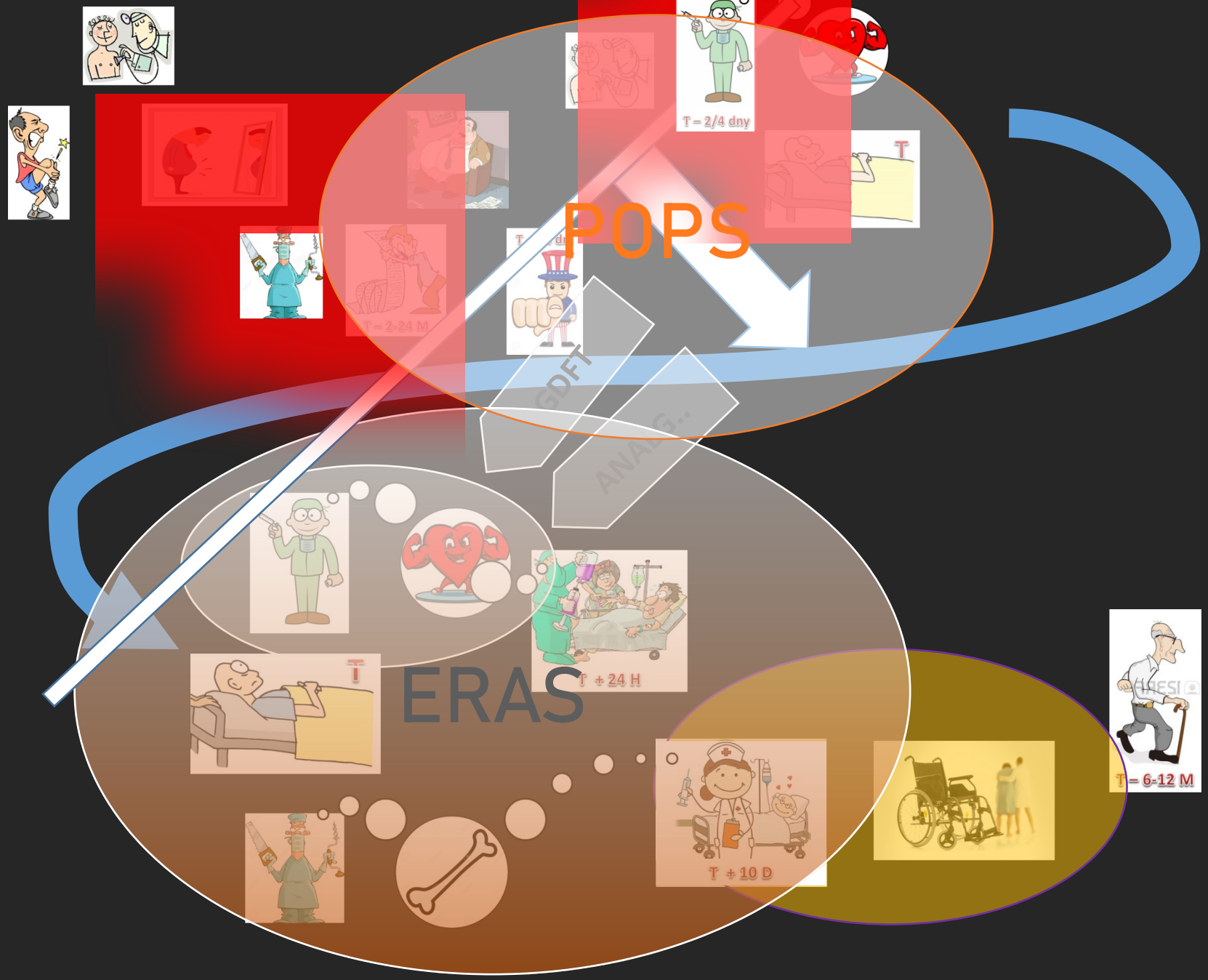


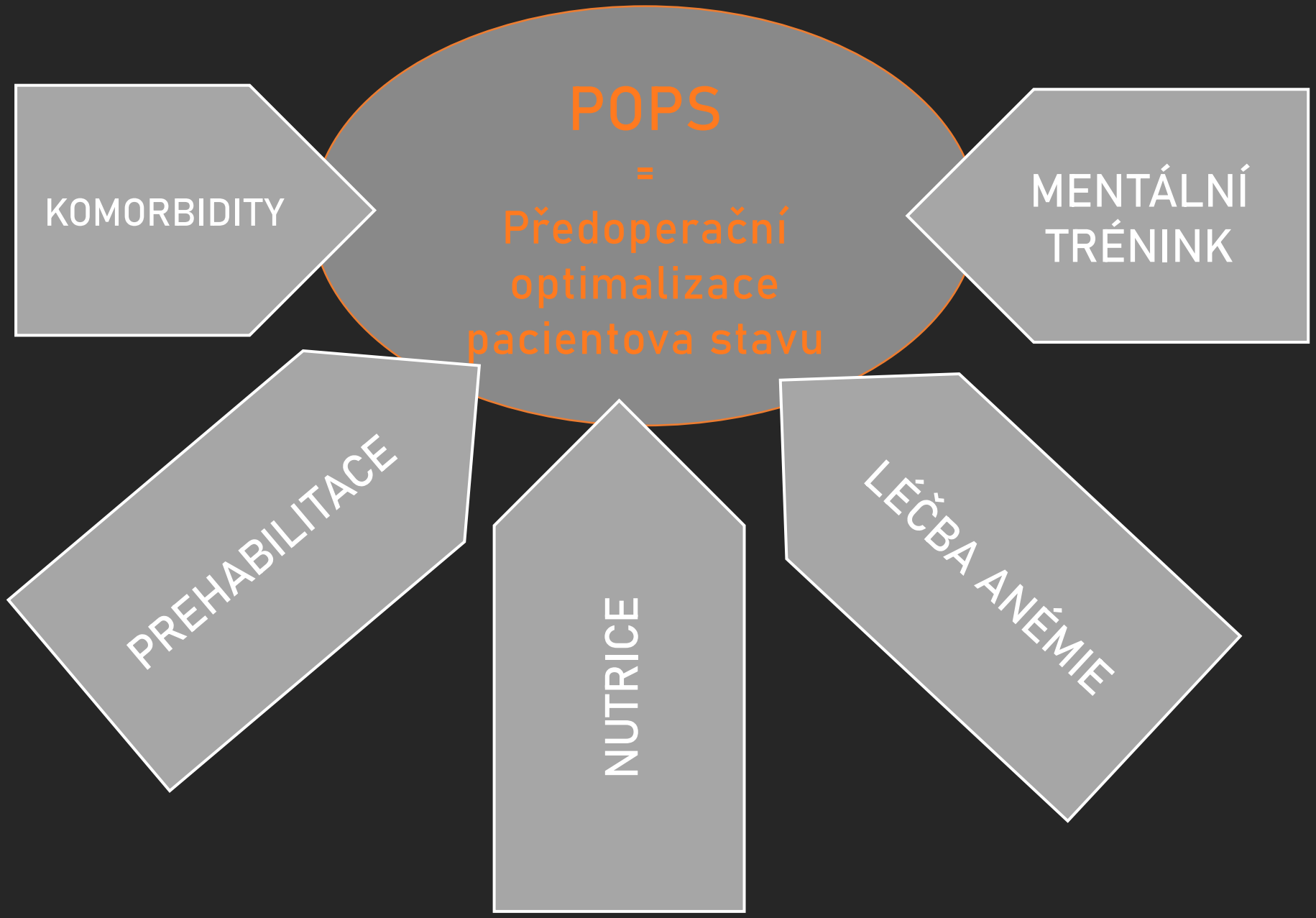
RESEARCH Open Access

A perioperative consult service results in reduction in cost and length of stay for colorectal surgical patients: evidence from a healthcare redesign project

Matthew D. McEvoy[1*], Jonathan P. Wanderer[1,2], Adam B. King[1], Timothy M. Geiger[3], Vikram Tiwari[1,2], Maxim Terekhov[1], Jesse M. Ehrenfeld[1,2,4,5], William R. Furman[1,4], Lorri A. Lee[1,6] and Warren S. Sandberg[1,2,4]




POPS
ERAS
T = 2/4 dny
T = 2-24 M
T + 24 H
T + 10 D
T = 6-12 M


POPS
=
Předoperační
optimalizace
pacientova stavu
KOMORBIDITY
MENTÁLNÍ
TRÉNINK
PREHABILITACE
NUTRICE
LÉČBA ANÉMIE

Pre-Hab

D. Harari *et al.*

Age and Ageing 2007; **36:** 190–196
doi:10.1093/ageing/afl163
Published electronically 27 January 2007

Proactive care of older people undergoing surgery ('POPS'): Designing, embedding, evaluating and funding a comprehensive geriatric assessment service for older elective surgical patients

Table 3. Pre-operative characteristics and post-operative outcome

	Pre-POPS $N = 54$ % (n)
Pre-operative characteristics	
Age (mean)	75.0 ± 6.1
% female	53.7 (29)
Type of orthopaedic surgery	
- Hip replacement	40.7 (22)
- Knee replacement	31.5 (17)
Post-operative outcomes	
Medical complications	
Delirium [acute change in mental status post-op. with improvement pre-discharge]	18.5 (10)	5.6 (3)	0.036
Pneumonia [radiological report]	20.4 (11)	3.7 (2)	0.008
Cardiac problems			
- Unstable angina/acute coronary syndrome	7.4 (4)	3.7 (2)	
- Arrhythmia	13.0 (7)	7.4 (4)	0.263
- Heart failure	3.7 (2)	0	
Thrombosis			
- Deep vein thrombosis	7.4 (4)	1.9 (1)	
- Pulmonary embolism	3.7 (2)	0	
Fluid balance			
- Dehydration	11.1 (6)	7.4 (4)	0.371
- Overhydration	5.6 (3)	0	
Urinary tract infection	16.7 (9)	7.4 (4)	0.118
Wound infection	22.2 (12)	3.7 (2)	0.004
Multidisciplinary issues			
Uncontrolled pain [routine acute pain service documentation day 3 post-op.]	29.6 (16)	1.9 (1)	<0.0001
No food for >= 4 days post-op.	9.3 (5)	0	
Urinary catheter for >= 4 days without indication	20.4 (11)	7.4 (4)	0.046
Urinary retention [post-void residual volume >500 mls]	14.8 (8)	7.4 (4)	0.273
Constipation [bowels not open >3 days]	29.6 (16)	16.7 (9)	0.085
Pressure sores	18.5 (10)	3.7 (2)	0.028
Bedridden [not sat out at all during first 48 h]	27.8 (15)	9.3 (5)	0.012
Dependent transfers on day 3 post-op. [requiring personal assistance to transfer]	14.8 (8)	0	0.003
Process measures			
Length of stay (days)			
- Mean±SD	15.8 ± 13.2	11.5 ± 5.2	0.028
- Median (range)	14.5 (2–80)	10.0 (4–26)	0.058
Delayed discharge [no surgical indication for patient to remain in hospital based on discussion with ward team]			
All	70.4 (38)	24.1 (13)	<0.0001
- Due to medical complications	37.0 (20)	13.0 (7)	
- Due to slow rehabilitation	13.0 (7)	7.4 (4)	
- Due to wait for OT and/or equipment	20.4 (11)	3.7 (2)	
Readmission within 28 days of discharge	3.7 (2)	3.7 (2)	
Death within 30 days of surgery	1.9 (1)	0	

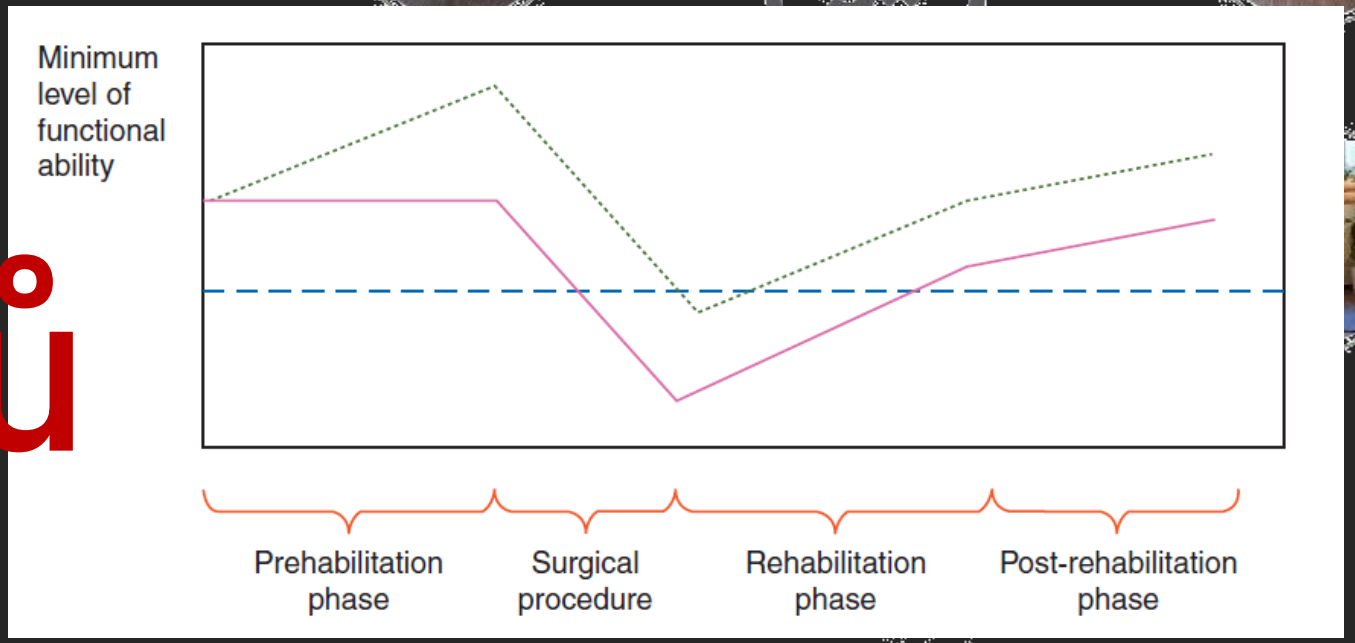
Does physiotherapy prehabilitation improve pre-surgical outcomes and influence patient expectations prior to knee and hip joint arthroplasty?

Nicholas J. Clode[a,*], Meredith A. Perry[b], Lauren Wulff[c]

International Journal of Orthopaedic and Trauma Nursing

The prehabilitation group underwent usual care, plus a one-hour exercise and education session, twice weekly, for 8 weeks. The exercise component involved a 45-min strengthening and st[illegible]class. The class included 13 exercise stations with 2 min spe[illegible]n station.

4-8 týdnů



BJA Education | Volume 0, Number 0, 2017

Pre-Hb

British Journal of Anaesthesia **113** (3): 416–23 (2014)
Advance Access publication 14 May 2014 · doi:10.1093/bja/aeu098

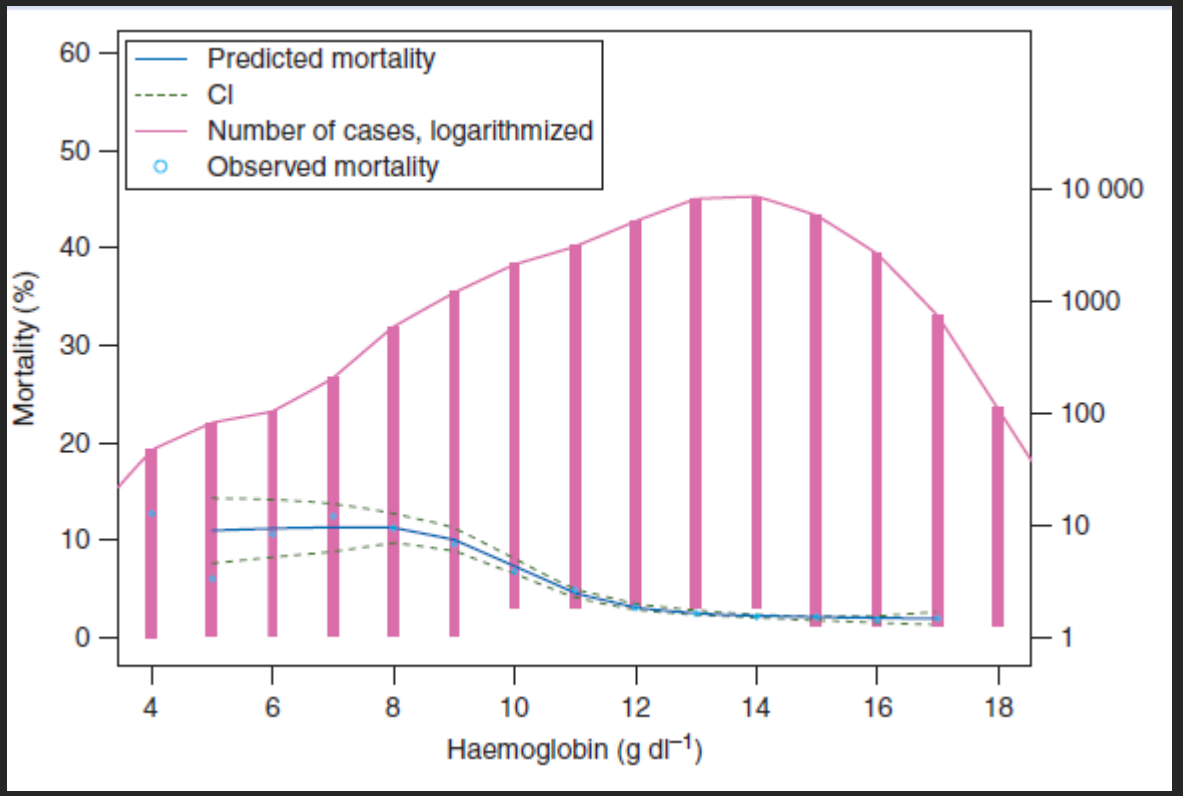
BJA

Preoperative anaemia is associated with poor clinical outcome in non-cardiac surgery patients

D. M. Baron[1], H. Hochrieser[2], M. Posch[2], B. Metnitz[3], A. Rhodes[4*], R. P. Moreno[5], R. M. Pearse[6] and P. Metnitz[1*], for the European Surgical Outcomes Study (EuSOS) group for the Trials Groups of the European Society of Intensive Care Medicine and the European Society of Anaesthesiology

39 309 pacientů

In-hospital mortalita (%)



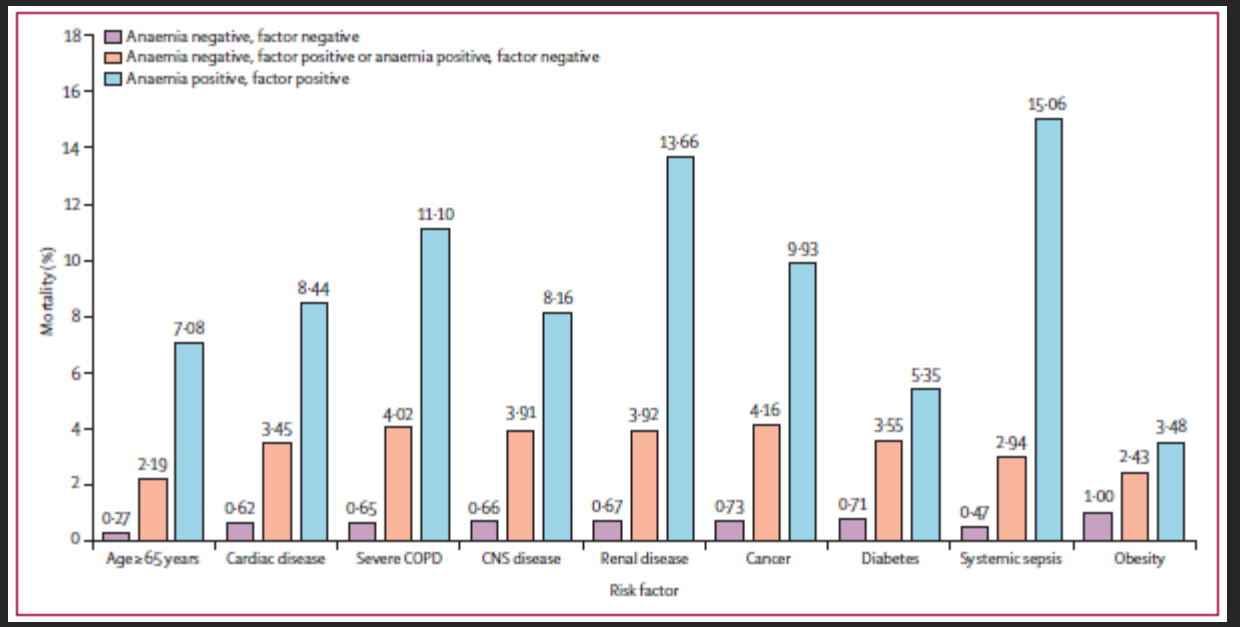
Preoperative anaemia and postoperative outcomes in non-cardiac surgery: a retrospective cohort study

Khaled M Musallam, Hani M Tamim, Toby Richards, Donat R Spahn, Frits R Rosendaal, Aida Habbal, Mohammad Khreiss, Fadi S Dahdaleh, Kaivan Khavandi, Pierre M Sfeir, Assaad Soweid, Jamal J Hoballah, Ali T Taher, Faek R Jamali

227 425 pacientů

39 % anemických

30denní mortalita (%)



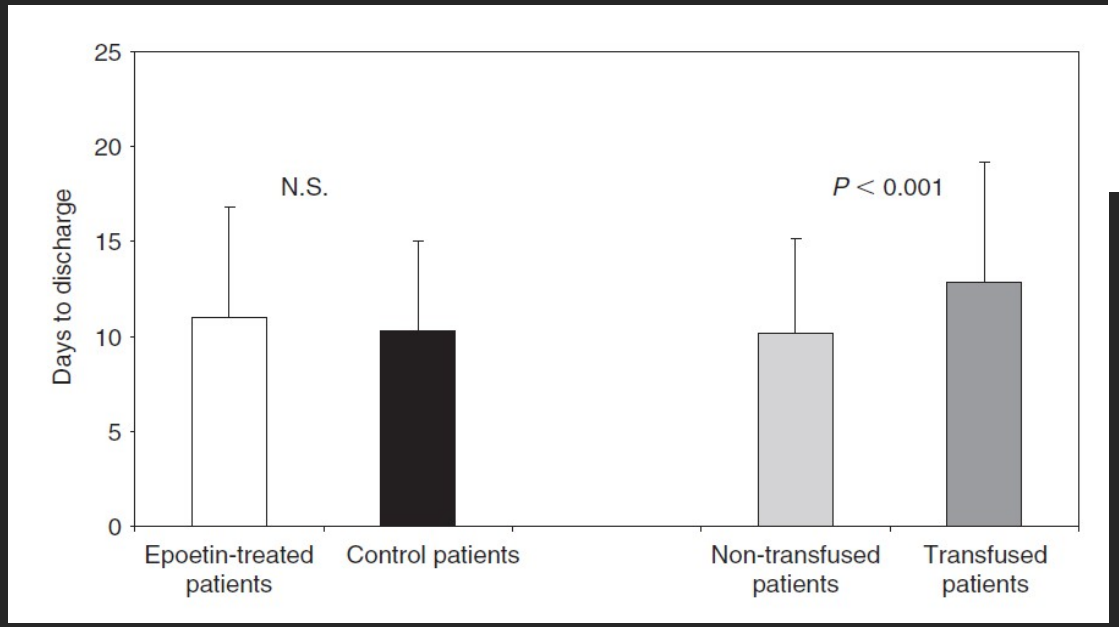
European Journal of Anaesthesiology 2005; 22: 249–257

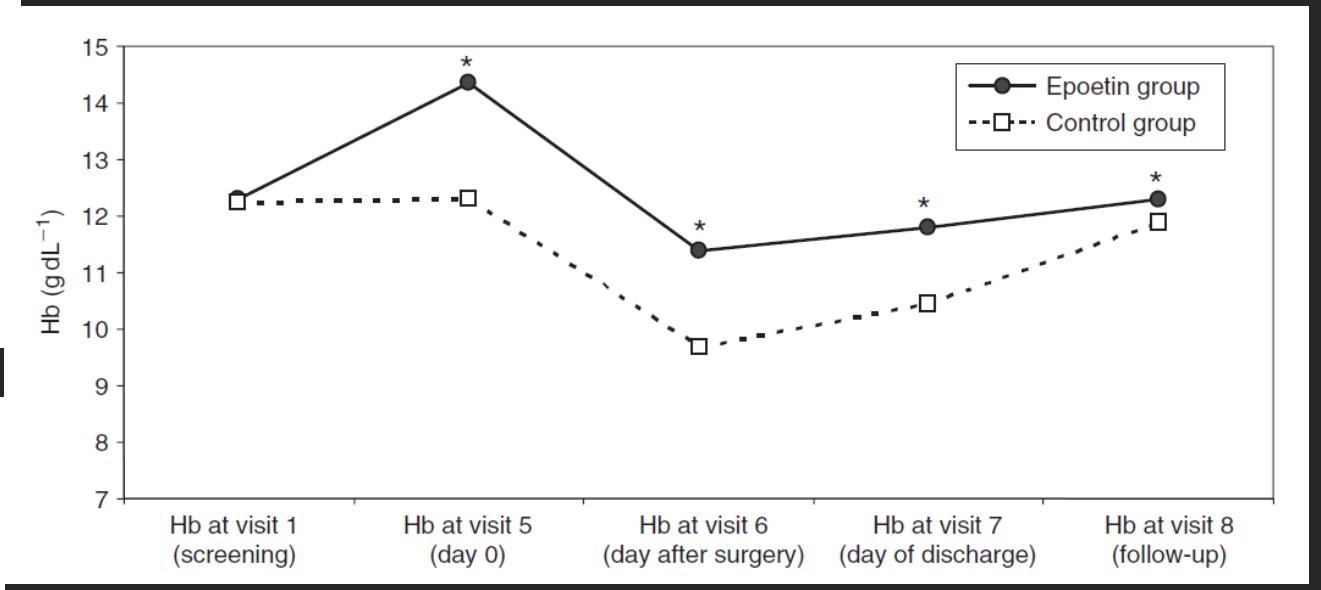
ISSN 0265-0215

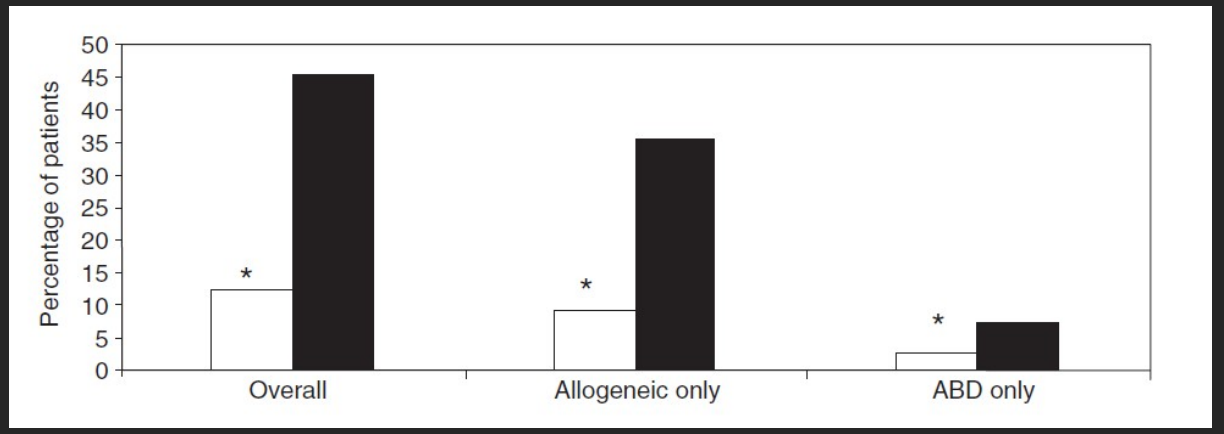
Original Article

Effects of epoetin alfa on blood transfusions and postoperative recovery in orthopaedic surgery: the European Epoetin Alfa Surgery Trial (EEST)

E. W. G. Weber[*1], R. Slappendel[*], Y. Hémon[†], S. Mähler[¶], T. Dalén[‡], E. Rouwet[§], J. van Os[||], A. Vosmaer[**], P. van der Ark[††]







Therapeutics and Clinical Risk Management

Dovepress
open access to scientific and medical research

Open Access Full Text Article

REVIEW

A meta-analysis and systematic review evaluating the use of erythropoietin in total hip and knee arthroplasty

This article was published in the following Dove Press journal:
Therapeutics and Clinical Risk Management

25 studií
4 159 pacientů

Conclusion

Preoperative use of EPO can increase pre- and postoperative Hb levels and decrease the need of ABT in patients undergoing THA or TKA. The effect of EPO is better than using PABD alone, and the combined use of EPO and PABD exerts the best effect in reducing the risk of exposure of ABT than using PABD alone. Further studies should focus on the appropriate perioperative blood management of TKA and THA.

EJA

Eur J Anaesthesiol 2013; **30:**270–382

GUIDELINES

Management of severe perioperative bleeding

Guidelines from the European Society of Anaesthesiology

6.1.2 Preoperative assessment

Recommendation

We recommend that patients at risk of bleeding are assessed for anaemia 4–8 weeks before surgery. **1C**

6.1.3 Preoperative treatment

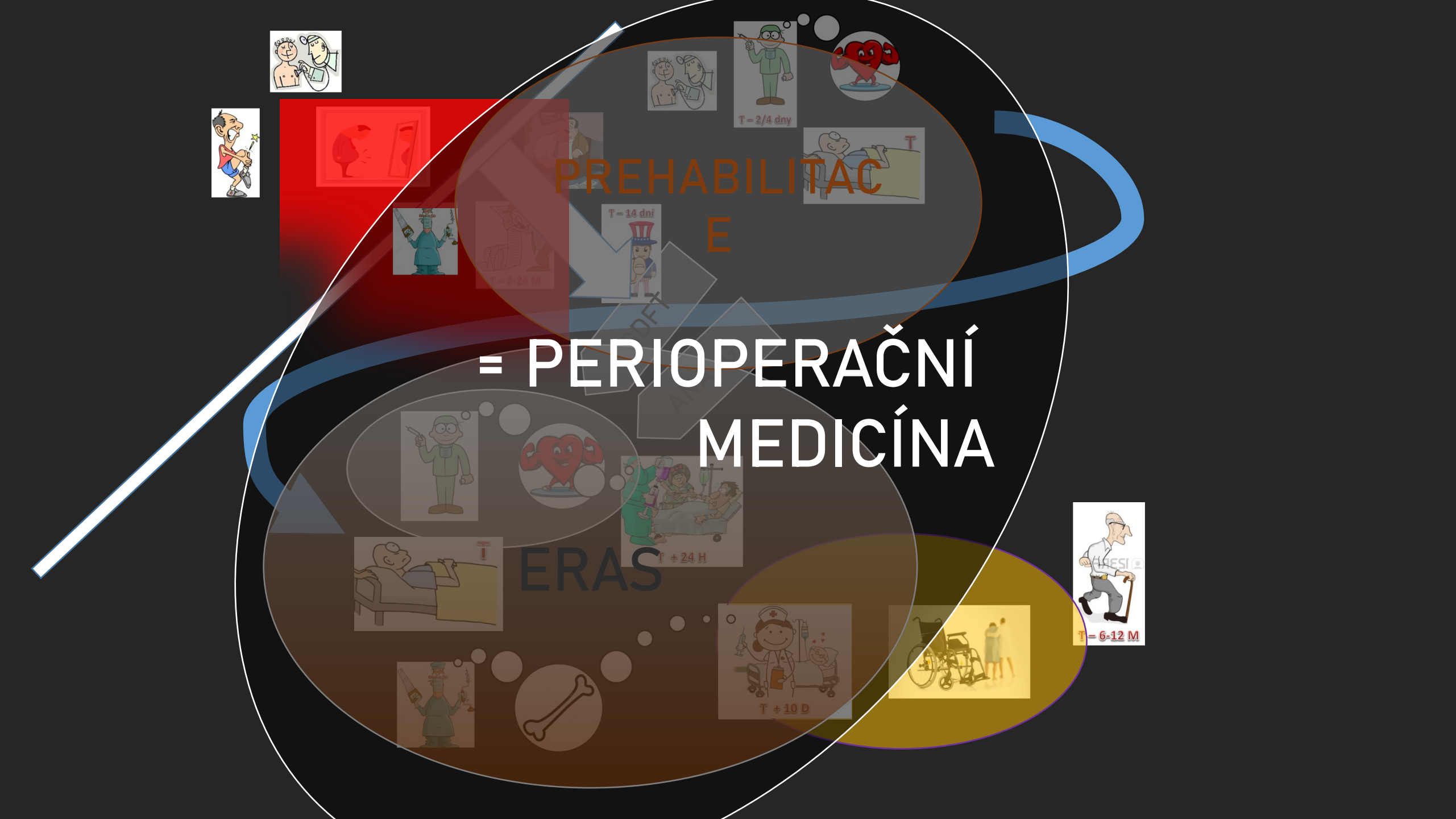
Recommendation

We recommend treating iron deficiency with iron supplementation (oral or intravenous). **1B**

Recommendation

If iron deficiency has been ruled out, we suggest treating anaemic patients with erythropoietin-stimulating agents. **2A**

3–4 týdny


PREHABILITACE
= PERIOPERAČNÍ MEDICÍNA
ERAS
T – 14 dní
T – 2-24 M
T – 2/4 dny
T
T + 24 H
T + 10 D
T – 6-12 M

= PERIOPERAČNÍ MEDICÍNA

- HLEDÁNÍ OPTIMÁLNÍ CESTY PERIOPERAČNÍM OBDOBÍM PRO KAŽDÉHO PACIENTA
- OD OKAMŽIKU INDIKACE DO NÁVRATU K FUNKČNÍMU ŽIVOTU
- VČETNĚ RACIONÁLNÍHO ZVÁŽENÍ NEOPERAČNÍCH ALTERNATIV


You don't have
to see the
whole Staircase,
just take the
FIRST STEP
- Dr. Martin Luther King Jr.


or.sk
Najťažší je prvý krok
Potom to už nejako letí


první
miliarda
je nejtěžší!
Honza z Inizia
JAK ZÍSKAT TOLIK ZÁKAZNÍKŮ,
KLIENTŮ A OBJEDNÁVEK, ŽE UŽ SE NIKDY
NEBUDETE MUSET BÁT O PENÍZE?

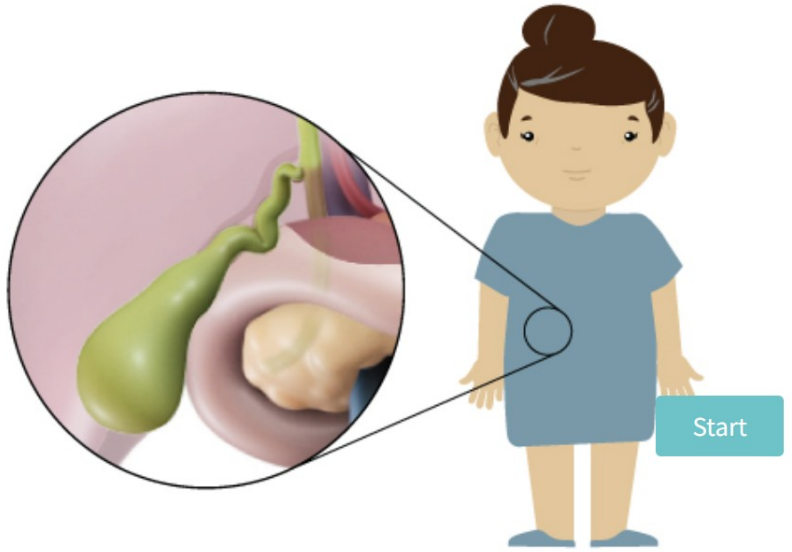

UDĚLAT PRVNÍ KRC
TO JE TO, CO ODLIŠUJE
VÍTĚZE
OD
PORAŽENÝCH.


„Udělat věc,
které se bojíme,
je první krok
k úspěchu."
MAHÁTMA GÁNDHÍ

PŘEDOPERAČNÍ PORADA S PACIENTEM

- OPTIMÁLNĚ V OKAMŽIKU INDIKACE, NEJPOZDĚJI 4T PŘED
- MUSÍ TO BÝT LÉKAŘEM VEDENÉ ? – MOŽNÁ Z VĚTŠINY NIKOLI
- MUSÍ TO BÝT PREZENČNÍ ? – URČITĚ NIKOLI

- SCHÉMATICKÉ A DISTANČNĚ VEDENÉ – VYPLNĚNÍ JEDNODUCHÉHO FORMULÁŘE
  - ASA 1-2 – POUČENÍ A INFORMACE O POSTUPU
  - ASA ≥3 – DISTANČNÍ KOMUNIKACE A NAPLÁNOVANÁ PRE-OP KONTROLA
  - SPECIFICKÉ VÝKONY – SPECIFICKÁ PŘÍPRAVA



Welcome To The Patient Pathway For The Cholecystectomy Procedure.
A Patient's Guide To Understanding Their Surgical Journey.

ST JOSEPH'S HEALTH CENTRE TORONTO

Pre-admit Session

Certain patients may be sent to a pre-admit session. This will take between 2.5 - 6 hours depending on the tests run. They may include:

- Blood tests
- Electrocardiogram (ECG)

What You Need To Bring

- health card
- hospital card
- **ALL** medications you are taking in their original bottles this includes prescription and non-prescription drugs, as well as any medications that you may have recently stopped taking.
- information about your medical history
- a translator if needed
- if possible, a family member or a friend

Who Will Meet With You

At this point, you will already have met with your surgeon, during this session you will meet additional members of your surgical and care team. You will meet nurses, a pharmacist, an anesthesiologist, and an internal medicine specialist.

Nurses - The nurses will perform an in-depth health assessment and complete any necessary testing.

Pharmacist - The pharmacist will evaluate the medications you are currently taking. It is important to have a complete list, as some medications may need to be stopped prior to your surgery date.

Anesthesiologist - An anesthesiologist will discuss pain control around the time of surgery.

Internal Medicine Specialist - If you have medical conditions that require consultation you will meet with a physician who is an internal medicine specialist.

Preparing For Surgery

Nutrition

A healthy, balanced diet should be followed in the days and weeks before your surgery. The goal is to maintain body weight prior to surgery. Try to avoid foods that are high in fat.

Do not eat for 8 hours prior to surgery. You can drink clear liquids up to 2 hours before the surgery. This would include water, tea and coffee (without milk).

Alcohol/smoking

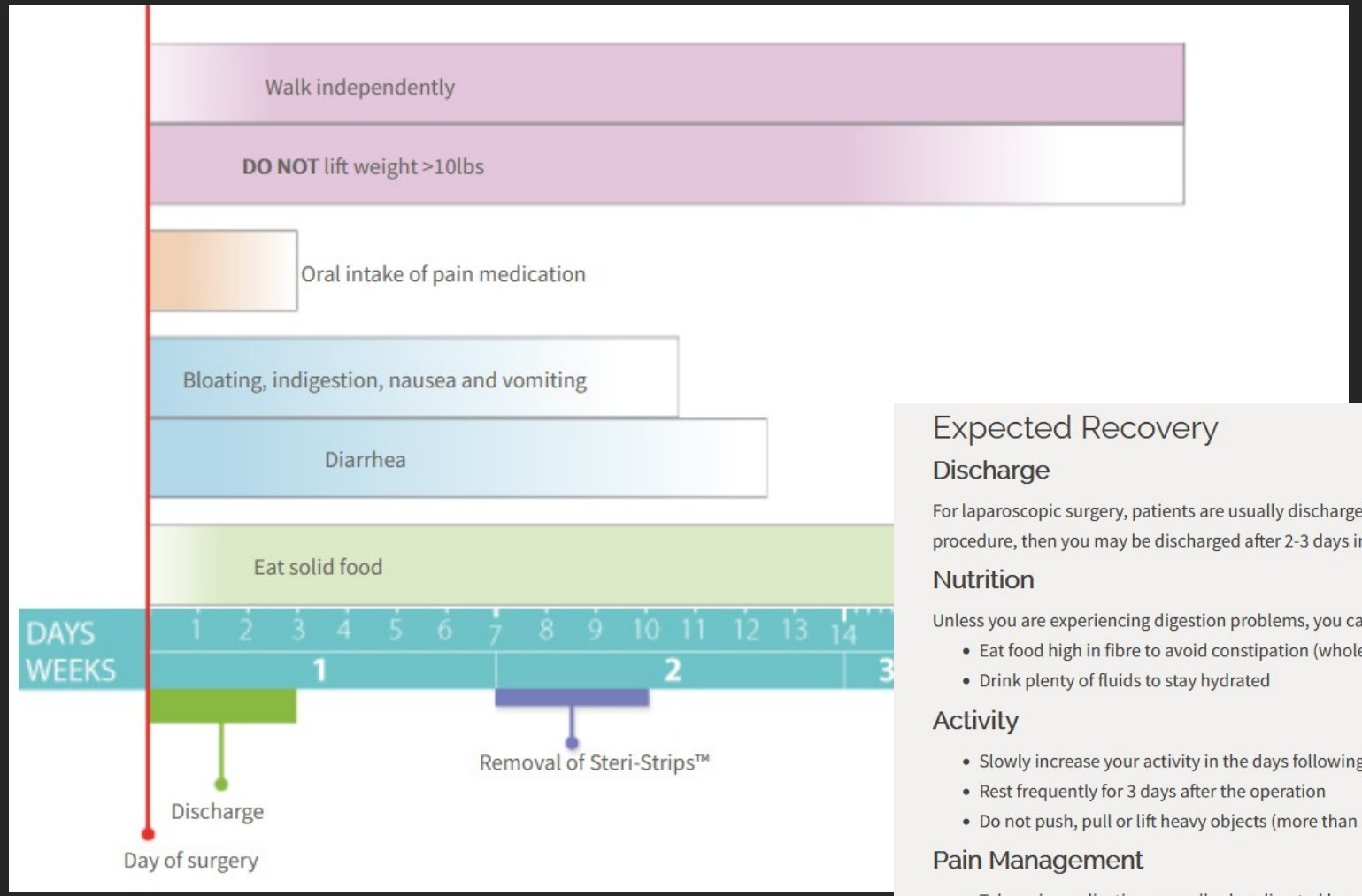
It is strongly recommended that you try to quit smoking prior to your surgery. You should not smoke or drink alcohol within 24 hours before your surgery. Support to quit smoking can be found online here.

Exercise

Maintain normal activity level prior to the surgery. Keeping active leading up to surgery can lower your recovery time. It is not recommended to start a more intense exercise schedule close to the surgery.

Medications

Take any medications that you have been prescribed before surgery as directed. If your surgeon directed you to stop any previous medications, then follow these instructions.



Expected Recovery

Discharge

For laparoscopic surgery, patients are usually discharged on the same day as the surgery unless otherwise instructed by the doctor. If the surgery was an open procedure, then you may be discharged after 2-3 days in the hospital.

Nutrition

Unless you are experiencing digestion problems, you can remain on your usual diet. (use Canada's Food Guide to Healthy Eating to maintain a balanced diet.)

- Eat food high in fibre to avoid constipation (whole grain breads and cereals, fruits and vegetables)
- Drink plenty of fluids to stay hydrated

Activity

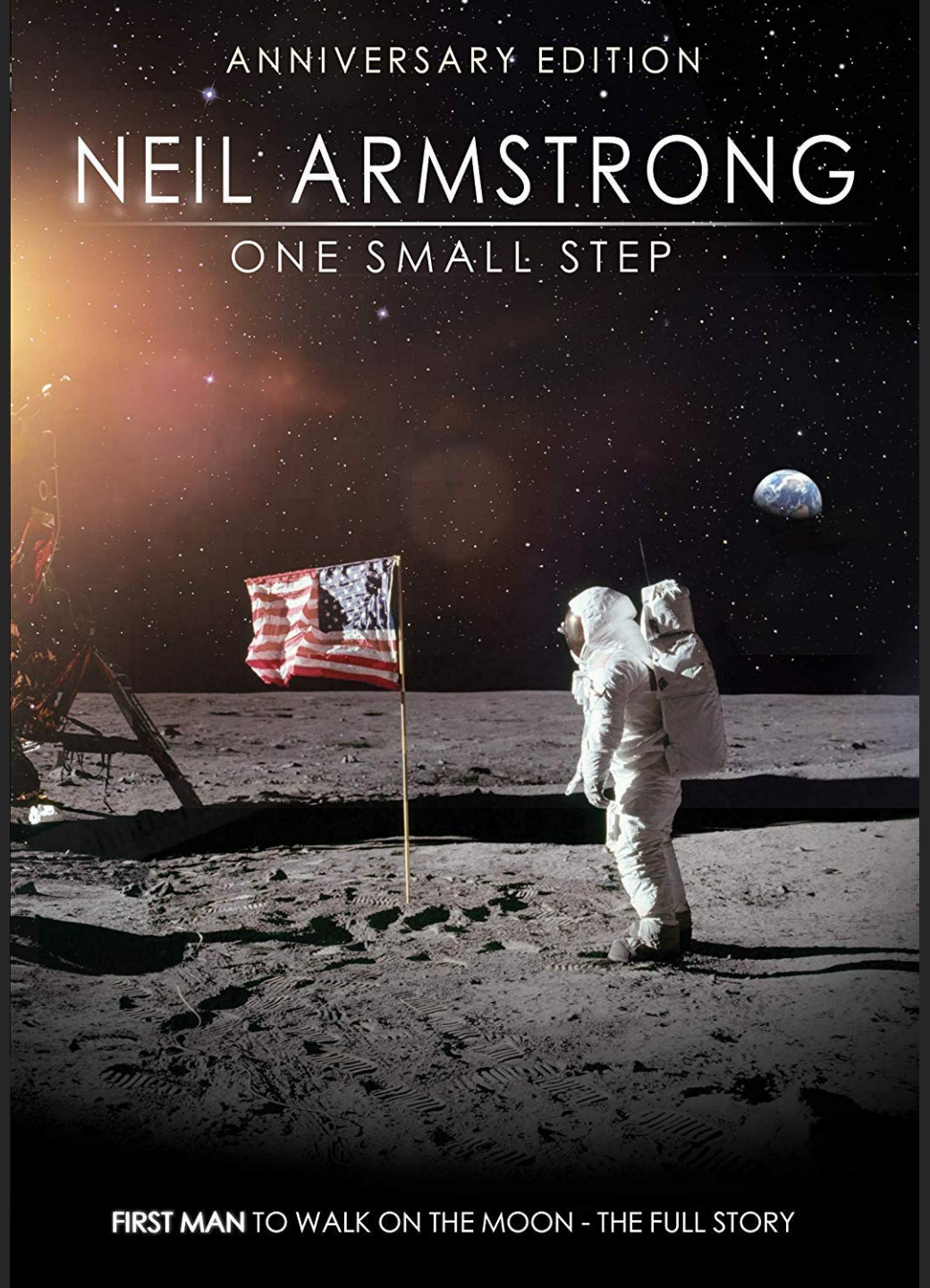
- Slowly increase your activity in the days following your operation.
- Rest frequently for 3 days after the operation
- Do not push, pull or lift heavy objects (more than 10 lbs) for one to two weeks after your operation (shovel snow, mowing the lawn)

Pain Management

- Take pain medication prescribed as directed by your physician for any abdominal, neck and shoulder pain that may be experienced after surgery
- If no medication was prescribed, then you may take acetaminophen (Tylenol) 1-2 tablets every 4-6 hours as needed to control the pain.
- Follow the instructions for medications you have been prescribed and be aware of the possible side effects.

Dressings

- The stitches will dissolve on their own.
- Bandages can be removed 48 hours after surgery. Underneath the bandage are small white pieces of paper tape. These can be removed 7-10 days after the surgery and can get wet during showers. If the edges of this tape curl and lift off the skin; these can be trimmed back carefully with scissors.



TAKHLE ŘEČENO TO VYPADÁ ASI STEJNĚ PRAVDĚPODOBNÉ...

MILÍ WATSONE,
JÁ VÁM ŘÍKAL, ŽE
DNES SE NIC
NOVÉHO

NICMÉNĚ
VÁM DĚKUJI ZA
POZORNOST