

Dead Donor Rule Transgressions Brain Death, DCD, and NRP

1

Thaddeus Pope

for

Loyola University Chicago
October 24, 2023

2

nothing
to disclose

3



4



5

violating
the dead
donor rule

6



7

almost
took organs
before death

8

Arizona College Student Bounces Back From the Dead After Nearly Giving Organs

May 15, 2019

By SUSAN DONALDSON JAMES on GOOD MORNING AMERICA



9

Los Angeles Times

close call in death ruling
of potential organ donor

John Foster at Fresno Community
(April 11, 2007)

10

St. Joe's "dead" patient awoke as docs prepared to remove organs

By John O'Brien

on July 17, 2013 at 2:00 AM, updated July 18, 2013

syracuse.com



11



12

accidental
DDR
violations

13

but

14



15

deliberate
violations

16



17

3 recent
examples

18

example

1

19



20



21



22



23

Execution by organ procurement: Breaching the dead donor rule in China

American Journal of Transplantation

Matthew P. Robertson¹ | Jacob Lavee²

24

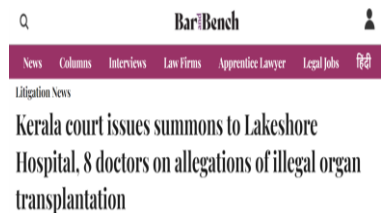
example

2

25



26



27

Kerala High Court stays proceedings against Lakeshore Hospital, doctors in illegal organ transplantation case

Justice PV Kumbhkrishnan issued the order dated October 3, staying the proceedings, including the summons issued to the hospital and doctors by a magistrate court.

October 2023

Bar
Bench

28

stay civil case
while **criminal**
case proceeds

29

example

3

30



31



Paulo
Pavesi

32

CORREIO BRAZILIENSE

JUSTICE

Doctor sentenced to 21 years for death after removing boy's organs

33



34



35

1968

36

case **1**

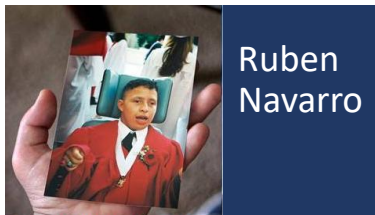
46



47



48



49

DCD

50

patient did **not**
die after
withdrawing LST

51

SO...

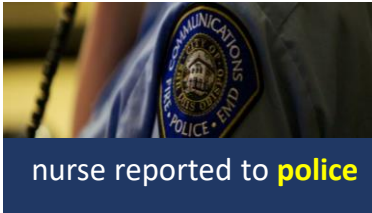
52



53

220mg morphine
+
84mg Atavan

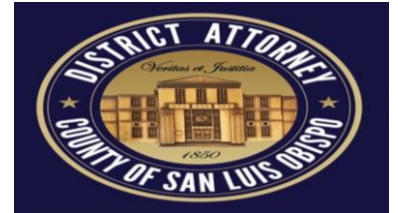
54



55

charged &
prosecuted

56



57

"The defendant a transplant surgeon administered excessive amounts of narcotics and tranquilizers ... to **hasten his death**, so that he could **harvest his organs**."

58

jury
acquitted

59

but

60

2-month
trial

61

3 years of his life
personal &
professional

62

case **2**

63



64



65



66



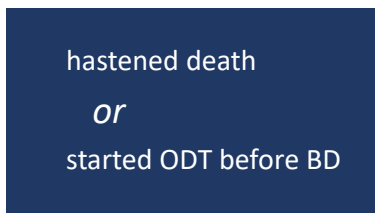
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74



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76



77



78



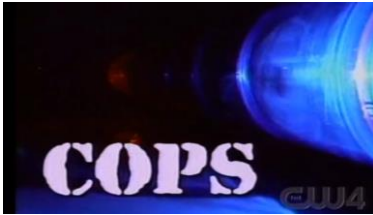
79



80



81



82

clinicians
know DDR
has teeth

83



scared
esp. NRP

84

law
professor

85

1 more
case

86

Munchkins
v.
Wicked Witch
of the East

87



88

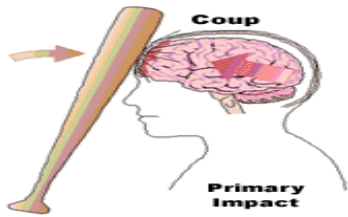


89



Wicked Witch
of the East

90



91



92



93

we've got to **verify** it legally,
to see if she
is morally, ethically
spiritually, physically
positively, absolutely
undeniably and reliably Dead

94

SO ...

95



96

She's not only
merely dead,
She's really most
sincerely dead

97



98

need
certainty
clarity

99



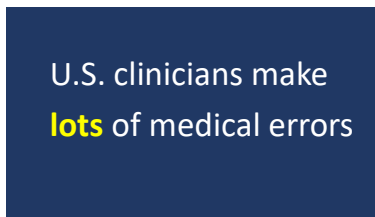
100



101



102



103



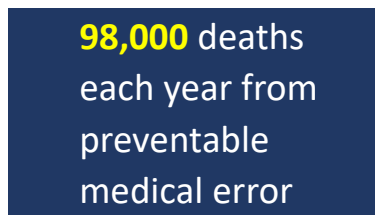
104



105



106



107



108

2010

109

Department of Health and Human Services
OFFICE OF
INSPECTOR GENERAL



ADVERSE EVENTS IN HOSPITALS:
NATIONAL INCIDENCE AMONG
MEDICARE BENEFICIARIES

110

180,000 deaths

111

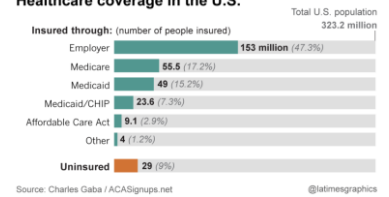
in addition to
deaths
1.4 million **injured**
each year

112

just Medicare
beneficiaries
just hospitals

113

Healthcare coverage in the U.S.



114

2013

115

A New, Evidence-based Estimate of Patient Harms
Associated with Hospital Care

John T. James, PhD

116

400,000

premature deaths from
preventable harm to patients

117

2016

118



119

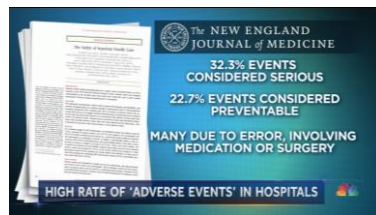
250,000

but understated

120

2023

121



122

lots of
different
studies

123

whichever
estimate we use
it is **too** many

124

place in
context

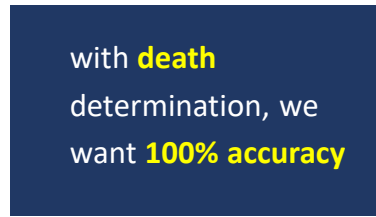
125

heart disease	600,000
cancer	600,000
medical error	400,000
COPD	140,000
stroke	130,000
accidents	120,000

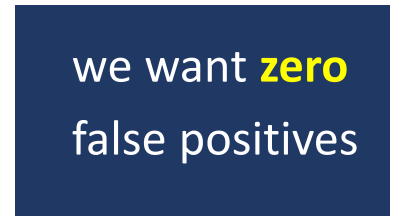
126



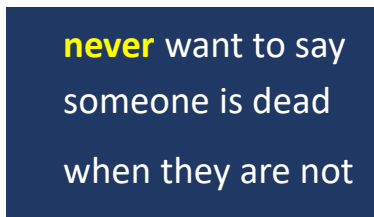
127



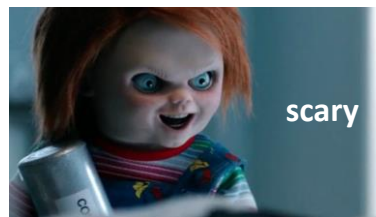
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129



130



131



132



133



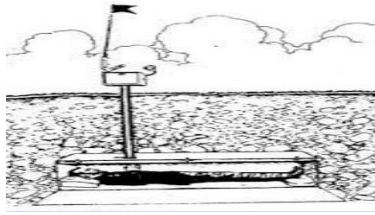
134



135



136



137



138

never want to say
someone is dead
when they are not

139

especially in
context of **ODT**

140

that's why we have the
dead donor rule

141

never take vital organs
until **after** individual
determined dead

142

but

143



144

roadmap

145



146

4 parts

147

organ transplantation

148

dead donor rule

149

4 violations of the DDR

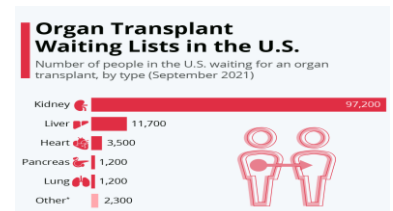
150

what to do **next**

151

organ transplantation

152



153



154

living donors
or
deceased donors

155

most organs
from **deceased**
donors

156

2022

157

6500
—
43,000

158

15%
transplants from
living donors

159

85%
transplants from
deceased donors

160



161



162

deceased
donation

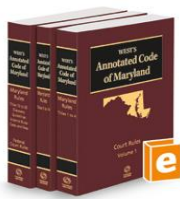
163

dead
donor
rule

164

procure vital
single organs
only from donors
already dead

165



Maryland

Maryland Health -
General § 5-202(b)(2)

166

“pronouncement of
death ... shall be made
before any vital organ
is removed for
transplantation.”

167

even where
not codified

168



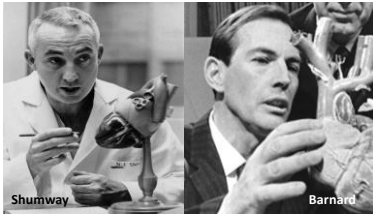
169



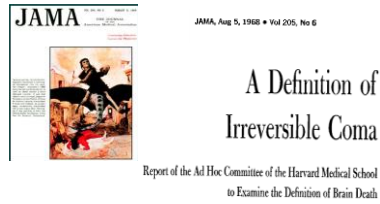
170

1968

171



172



173



174



175



176



177



178

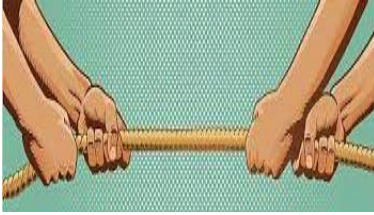


WHO GUIDING PRINCIPLES
ON HUMAN CELL, TISSUE AND ORGAN TRANSPLANTATION¹

179

“physicians determining that a potential donor has died should **not be directly involved** in ... transplantation ...”

180



181



182

screen COI that
might cause
DDR violations

183

SO...

184

not only

185

follow DDR

186

but also

187

avoid even
appearance
of impropriety

188



DDR stated strongly

189

3rd

190

burden
of proof

191

DDR

192

~~PDDR~~

193

presumed
alive until
rebutted

194



195



196

that's the
DDR

197

first
determine death

198

then
take organs

199

when are
donors dead

200

2 ways to
be dead

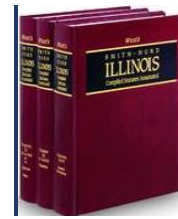
201

UDDA

202

law on death
in all U.S.
jurisdictions

203



755 ILCS
§ 40/10

204

2 ways
to determine death

205

“irreversible cessation of
circulatory & respiratory
functions”

206

or

207

“irreversible cessation
of all functions of
the entire **brain**”

208

circulatory criteria
or
neurologic criteria

209

to date, **87%**
deceased donation
is after **BD**

210

just **13%**
after CD

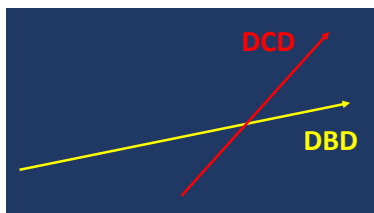
211

but

212

2010 - 2023

213



214



215

	To Date	2023	2022	2021	2020	2019	2018	2017	
All DCD + non-DCD		267,927	2,515	14,905	13,863	12,588	11,870	10,721	10,286
Brain Death Donor		206,453	1,673	10,127	9,673	9,364	9,152	8,589	8,403
DCD Donor		33,926	841	4,778	4,190	3,224	2,718	2,132	1,883

<https://optn.transplant.hrsa.gov/data/view-data-reports/national-data/>

216

DCD

217

>110% increase
last 5 years

218

DBD

219

only 17% increase
last 5 years

220



OCTOBER 2023

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

221

DCD > 1/3
DBD < 2/3

222

DDR violations

223

4 violations

224

DBD

225

The letters "DCD" in white, bold, sans-serif font on a dark blue background.

226

The letters "NRP" in white, bold, sans-serif font on a dark blue background.

227

The letters "PMI" in white, bold, sans-serif font on a dark blue background.

228

The letters "DBD" in white, bold, sans-serif font on a purple background.

229

The text "problem 1" in white, sans-serif font on a dark blue background.

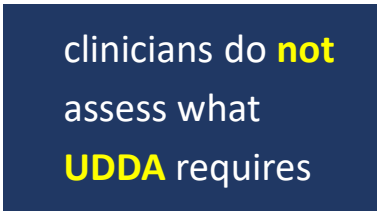
230

A photograph of a person's lower legs and feet wearing a bright pink sock on the left foot and a bright yellow sock on the right foot. The word "mismatch" is written in black text in the upper left corner of the image.

231

A dark blue rectangular graphic divided by a vertical light gray line. The word "law" is on the left and "medicine" is on the right, both in white, sans-serif font.

232

The text "clinicians do not assess what UDDA requires" in white, sans-serif font on a dark blue background. The word "not" is in yellow.

233

The letters "UDDA" in white, bold, sans-serif font on a dark blue background.

234

law on death
in all U.S.
jurisdictions

235

irreversible cessation
all functions
entire brain

236

but

237

brain dead
people
do stuff

238

gestate
a fetus

239

sexually responsive

UMN, J Neurosurgery 35(2): 211-18

240

heal wounds
fight infections
stress response

grow
sexually mature
regulate temp

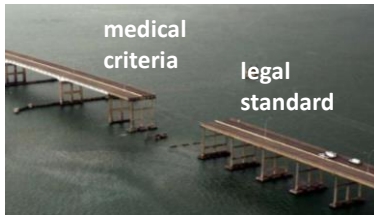
241

clinicians only assess
cessation
some functions
part of brain

242

UDDA requires
all functions
entire brain

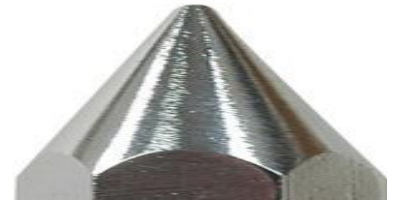
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244



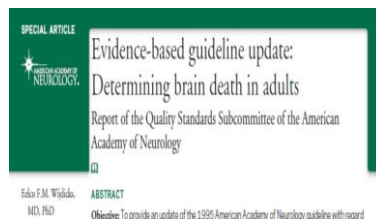
245



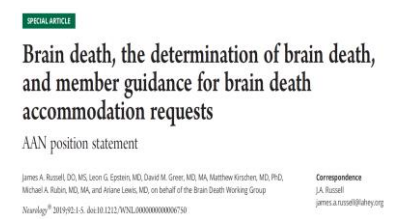
246



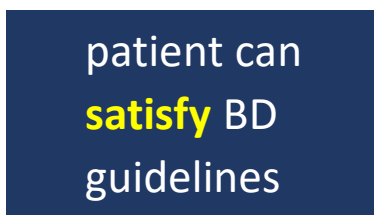
247



248



249



250



251



252

“neuro-endocrine
function **may be
present**”

253



254

may determine BD
despite function
hypothalamus

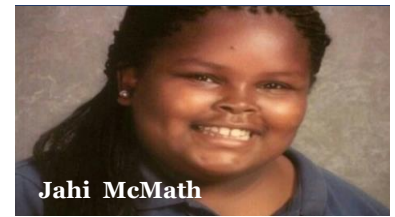
255

“**not inconsistent**
with the whole brain
standard of death”

256



257



258



259



260



261

irreversible
cessation of

262

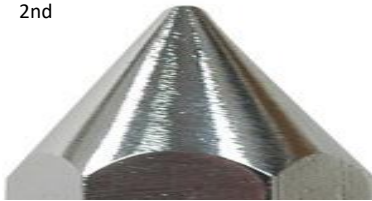
all functions
of the
entire brain

263



264

2nd



265

A Framework for Revisiting Brain Death:
Evaluating Awareness and Attitudes
Toward the Neuroscientific and Ethical
Debate Around the American Academy of
Neurology Brain Death Criteria

Krishanu Chatterjee, BA¹
Mohamed Y. Rady, BChir, MB (Cantab), MA, MD (Cantab)²
Joseph L. Verheijde, PhD, MBA, PT³, and Richard J. Butterfield, MA⁴

Journal of Intensive Care Medicine
33(8)
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DOI: 10.1177/0885066622110627
jicm.sagepub.com/home/jicm
#SAGE

266

200 clinicians
Mayo Clinic

267

1. use AAN protocol
2. get positive result
3. does that demonstrate
loss of "all functions of
the entire brain"?

268



269



270

medical criteria
do **not** require
cessation of
all functions

271

require cessation
of **critical** functions

272



273

but

274

lack authority
to do that

275

analogy

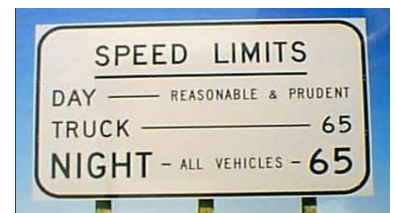
276



277



278



279



280

UDDA **gives**
standards

281

medical profession
only **applies** them

282

1. all functions
2. entire brain
3. cessation
4. irreversible

283

that's
problem **1**

284

mismatch
legal criteria to
medical standards

285

problem 2

286

even if guidelines
were legally valid

287

widespread
noncompliance

288

UDDA

289

when making
determinations of
irreversible cessation

290

“accordance with
**accepted medical
standards**”

291

but

292

which medical
standards are
accepted ?

293



294

variability

295

Research

Original Investigation

Variability of Brain Death Policies in the United States

David M. Greer, MD, MA; Hilary H. Wang, BA; Jennifer D. Robinson, APRN; Panajiotis N. Varelas, MD, PhD;
Galen V. Henderson, MD; Edo F. M. Wijdicks, MD, PhD

296

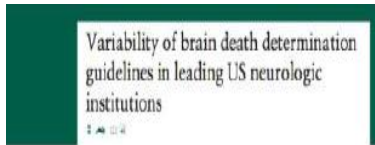
Improving uniformity in brain death
determination policies over time

OPEN

Hilary H. Wang, MD

ABSTRACT

297



298

Neurology®

February 26, 2019; 92 (9) ARTICLE

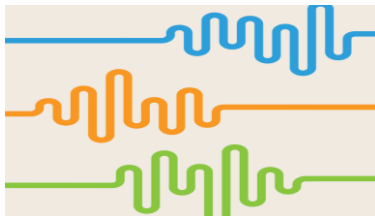
Variability in reported physician practices for brain death determination

Sherri A. Braksick, Christopher P. Robinson, Gary S. Gronseth, Sara Hocker, Selco F.M. Wijdevits, Alejandro A. Rabinstein

299

number of physicians
qualifications
how tests administered

300



301



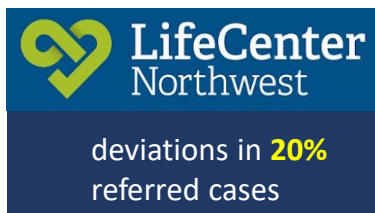
302

Neurology: Clinical Practice Publish Ahead of Print
DOI: 10.1212/CPJ.00000000000020077

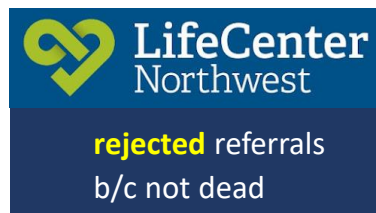
A Review of Practices Around Determination of Death by Neurologic Criteria by an Organ Procurement Organization in the WAMI Region

Author(s): Abhijit V Jay Lew, MBBS, MD, MSCR, FRCGS^{1,2,3}; Sarah Vansage, MD⁴; Jan Boer⁵; Corinne Adams, MD⁶; Candy

303



304



305



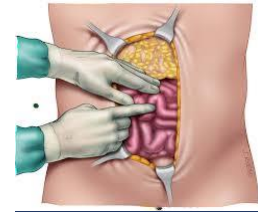
306



307

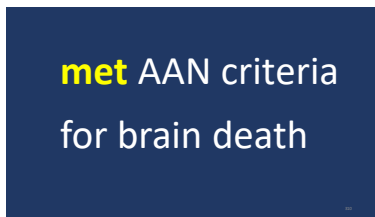


308



brain injury
during
exploratory
laparotomy

309



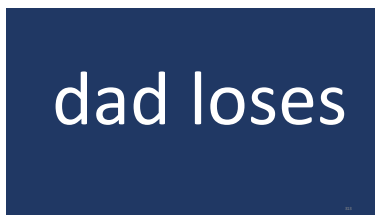
310



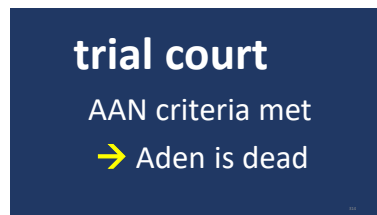
311



312



313



314



315

dad **wins**

316



317

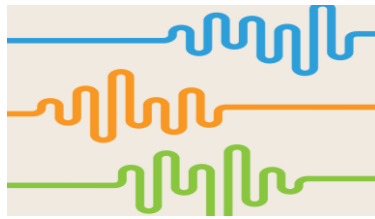
irrelevant Aden
meets AAN criteria

not the
“right” criteria

318

unclear they are
“**accepted** medical
standards”
as UDDA requires

319



320

state 1
≠
state 2

321

hospital 1
≠
hospital 2

322

MD 1
≠
MD 2

323



324

Board Adopted Resolution as Amended
(January 2021)
(Affirmed; 2021 Annual Meeting)

ILLINOIS STATE MEDICAL SOCIETY

Resolution 09.2020-08
(A-21)

Introduced by: Megan Finneran, DO, MS, ISMS Member
Subject: Statewide Brain Death Protocol
Referred to: Medical Legal Council

325



326

uncertainty



327



328



329

Nevada
A.B. 424 (2017)



330

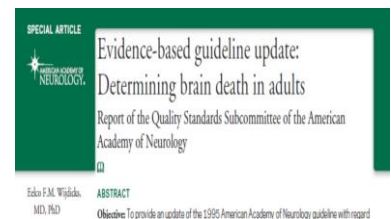
amended
NUDDA

A.B. 424 (2017)

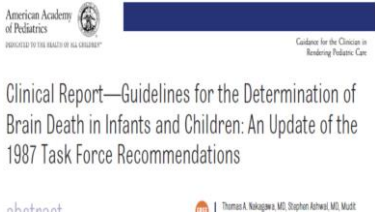
331

determination of BD
"must be made in
accordance with ..."

332



333



334



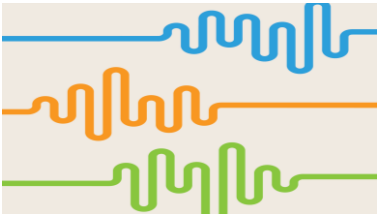
335



336



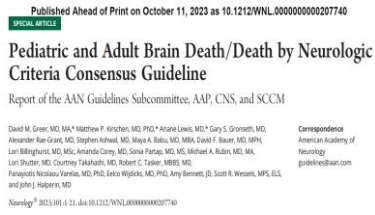
337



338



339



340



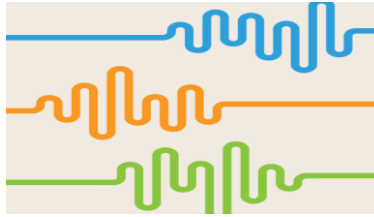
341



342

$$\frac{4000}{6000}$$

343



344

that's
problem **2**

345

failure

determine BD using
"accepted standards"

346

that's

DBD

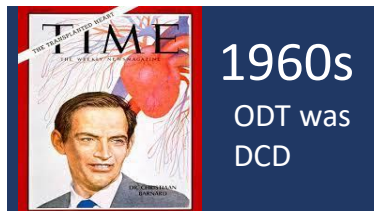
347

let's move to
a **second**
DDR violation

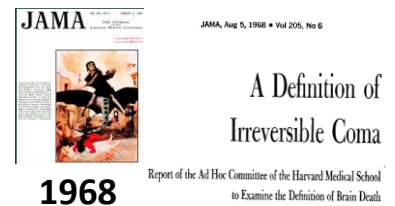
348

DCD

349



350



351

1970 →

352

50 years
almost all
ODT was BD

353



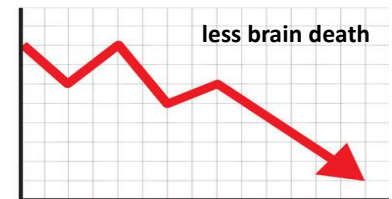
354

BD – can keep
organs perfused
whole time

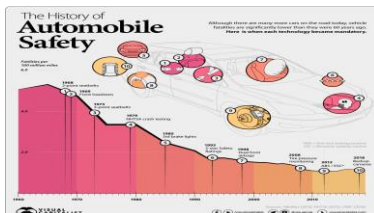
355

but

356



357



358



359



360



361

DCD

362



363

catastrophically
critically ill
(but **alive** patient)

364

family makes
decision to
stop LST

365

likely that
heart will **stop**

366

even when
heart stops

367

not dead **yet**

368

UDDA

369

"**irreversible** cessation of
circulatory & respiratory
functions"

370



An error occurred.

371

2 problems

372

problem **1**

373

cessation is
not irreversible
as UDDA requires

374

we **can** reverse
cessation of
circulatory function

375

we **won't**
(because Pt does
not want that)

376



377

but

378

we **could**

379

response

380

we interpret
“irreversible” as
“**permanent**”

381



382

not what
UDDA says

383

problem **2**

384

even if UDDA requires
only “permanent”
cessation

385

is even **that**
satisfied?

386

after heart
stops

387

standoff

388

ensure heart
does not restart
spontaneously

389

how long?

390



391

after 5 min

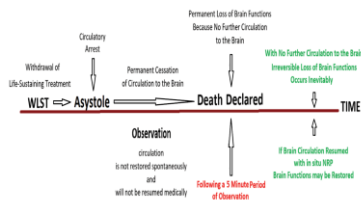
392

if **no** circulatory
function

393

→ dead

394



395

why **5** min

396

hearts **have**
restarted at 4:20

397

problem

398

some clinicians
wait only **2 min**

399



400

unclear that
circulatory cessation
was **irreversible**

401

heart **might**
have restarted

402

at 2:09
or
at 3:44

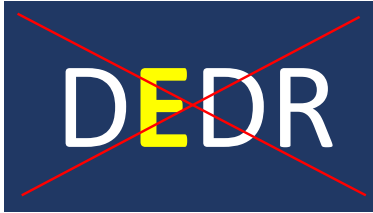
403

DDR

404

PDDR

405



406



407



408



409



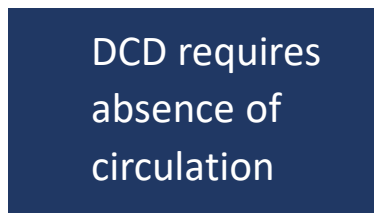
410



411



412



413



414

bad for organs,
especially heart

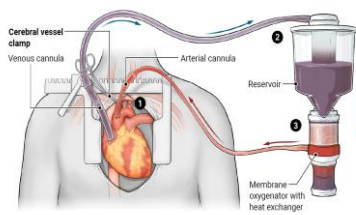
415

SO ...

416

minimize warm
ischemia → restart
circulation
in the donor

417



418

improves
organ quality

419

problem

420

said dead **because**
irreversible cessation
circulatory function

421

reversed it

422

basis for death
determination
no longer true

423

response

424

before restart →
cut or clamp
vessels to brain

425

even if no longer
circulatory dead, w/o
perfusion to brain,
patient is **brain** dead

426



427



Ethics, Determination of Death, and Organ Transplantation in Normothermic Regional
Perfusion (NRP) with Controlled Donation after Circulatory Determination of Death (cDCD):
American College of Physicians Statement of Concern

428

“ethical & legal
propriety ... has
not been met”

429



430

“**unclear** whether
NRP violates the
DDR”

431

NRP

432

really only
regional?

433

only a **hypothesis**
do not **know** no
perfusion to brain

434

do not **know**
donor is dead

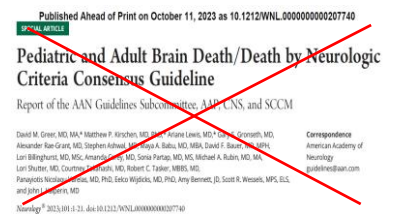
435

may be
consciousness
pain perception

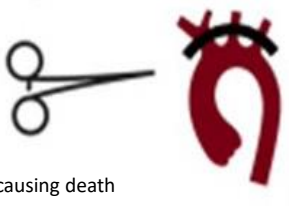
436



437



438



causing death

439

DDR

440

death → ODT

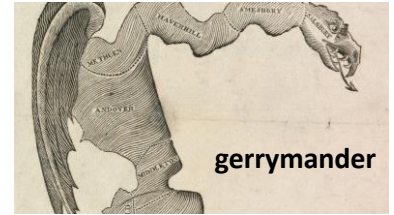
441



442

ODT → death

443



444

recap

445

DBD
DCD
NRP

446

1 more DDR
violation

447

PMI

448

DCD entails
some ischemic
damage

449

SO ...

450

pre-mortem
non-therapeutic
interventions

451

MV CPR
vasopressors
hormonal therapy

452

heparin
femoral
cannulation

453

not for patient
only for **organ**

454

organ **protection**
therapy

donor **optimization**
procedures

455

donor
management

456

DDR

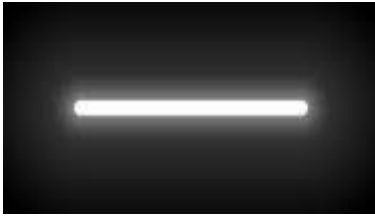
457

alive	dead
focus on patient	focus on organ

458

alive	dead
treatment team	transplant team

459



460



461

alive	dead
focus on patient	focus on organ

462



463

Fact

When you are sick or injured and admitted to a hospital, the one and only priority is to save your life.

464

Not True!



465



466



467

clinicians have the very **COI** that DDR aims to prevent

468

recap

469

DBD NRP
DCD PMI

470

we **breach**
the DDR

471

every
single day

472

what to
do next

473

4 paths

474



475



476

continue
ODT **as is**

477



478



479



480



481



482



483



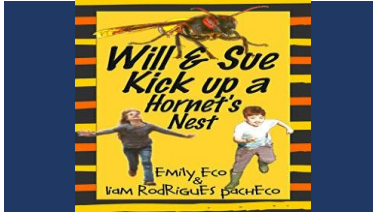
484



485



486



487



488



489



490



491



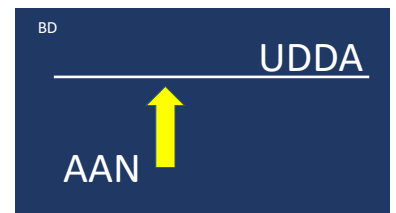
492



493



494



495

BD **only** when no
neuroendocrine
function

496

DCD > 5 min

497

no NRP

498

continue NRP

as human subjects
research - with IRB
approval & oversight

499

but

500



501

UDDA is strict
& demanding

502

we would **lose**
many organs

503



504

change
UDDA

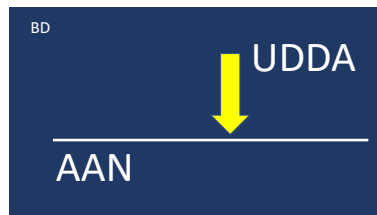
505

instead of aligning
guidelines to law

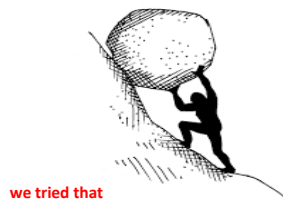
506

align **law** to
guidelines

507



508



509

2020	2022
2021	2023

510



511

UDDA →
RUDDA

512

certainty
clarity

513

match

legal criteria to
medical standards

514

clarify **which**
medical standards
to use

515

but

516



517



518

so ...

519

~~RUDDA~~

520



521

drop DDR

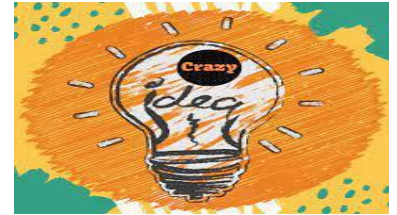
522



523

let people **decide**
when they are
“dead enough” to
donate organs

524



525

1 growing
calls

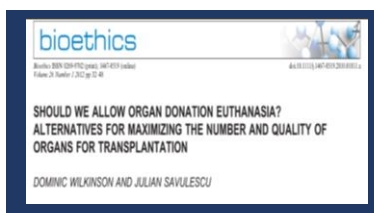
526



527

2 foremost
bioethicists

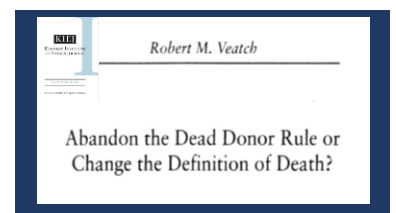
528



529



530



531



532



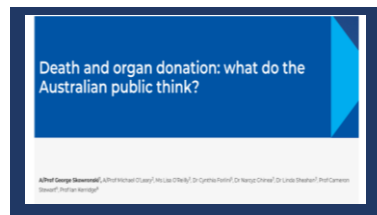
533



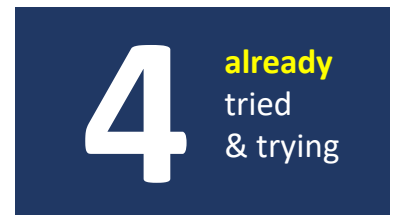
534



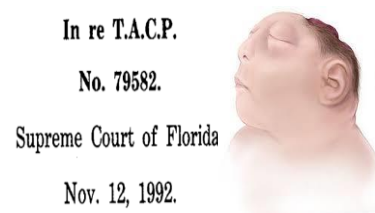
535



536



537



538



539



540

not
expanding

541

matching rules
to practice

542



543

SO...

544

~~**DDR**~~

545

but

546

IT'S A
BIG
DEAL

547

DDR

548

protect patients
preserve public
trust

549



550

31%
Trust the US
healthcare system
as a whole

551

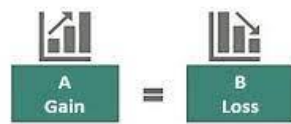
conclusion

552

increase
number & quality
of organs

553

Zero-Sum Situation



554

more
certain
death → fewer
organs

555

more
organs → less
certain
death

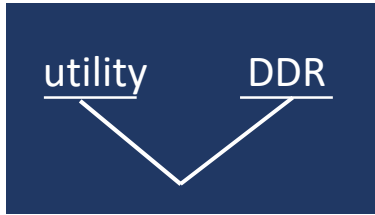
556



557

how much
**uncertainty of
death** can we
tolerate?

558



559



560