

Pioneers in the treatment of fluid overload

Liver disease, Heart failure & Cancer

Investor presentation – June 2023

Euronext: SEQUA.BR

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Regulatory disclaimer:

- The **alfapump**® system has not yet received regulatory approval in the United States and Canada. Any statement in this presentation about safety and efficacy of the **alfapump**® system does not apply to the United States and Canada. In the United States and Canada, the **alfapump**® system is currently under clinical investigation (POSEIDON Study) and is being studied in adult patients with refractory or recurrent ascites due to cirrhosis. For more information regarding the POSEIDON clinical study visit www.poseidonstudy.com.
- DSR® therapy is still under development and it should be noted that any statements regarding safety and efficacy arise from ongoing pre-clinical and clinical investigations which have yet to be completed. There is no link between DSR® therapy and ongoing investigations with the **alfapump**® system in Europe, the United States or Canada.

General disclaimer:

- Sequana Medical is closely following the evolution of macroeconomic conditions, the geopolitical situation in Ukraine and the COVID-19 global health crisis and is in constant dialogue with its partners to assess the impact and adapt operations accordingly.
- Sequana Medical has put in place mitigation plans to minimise delays. The impact of increased demands on the healthcare systems, limitations on non-essential hospital visits and procedures, social-distancing and travel restrictions may result in further delays to execution of clinical studies and impact sales.
- Sequana Medical will continue to update the market as needed and whenever possible.

Note:

- **alfapump**® and DSR® are registered trademarks.

Leading player in the treatment of fluid overload



- **Proprietary technologies meeting large and unmet clinical needs**
 - Key clinical problem in liver disease, heart failure, renal failure and cancer
 - We are not replacing diuretics – we are targeting those patients for whom they are not effective
 - Diuretic-resistance is common and alternative treatments have significant disadvantages
- **Strong granted IP portfolio for alfapump® and DSR®**

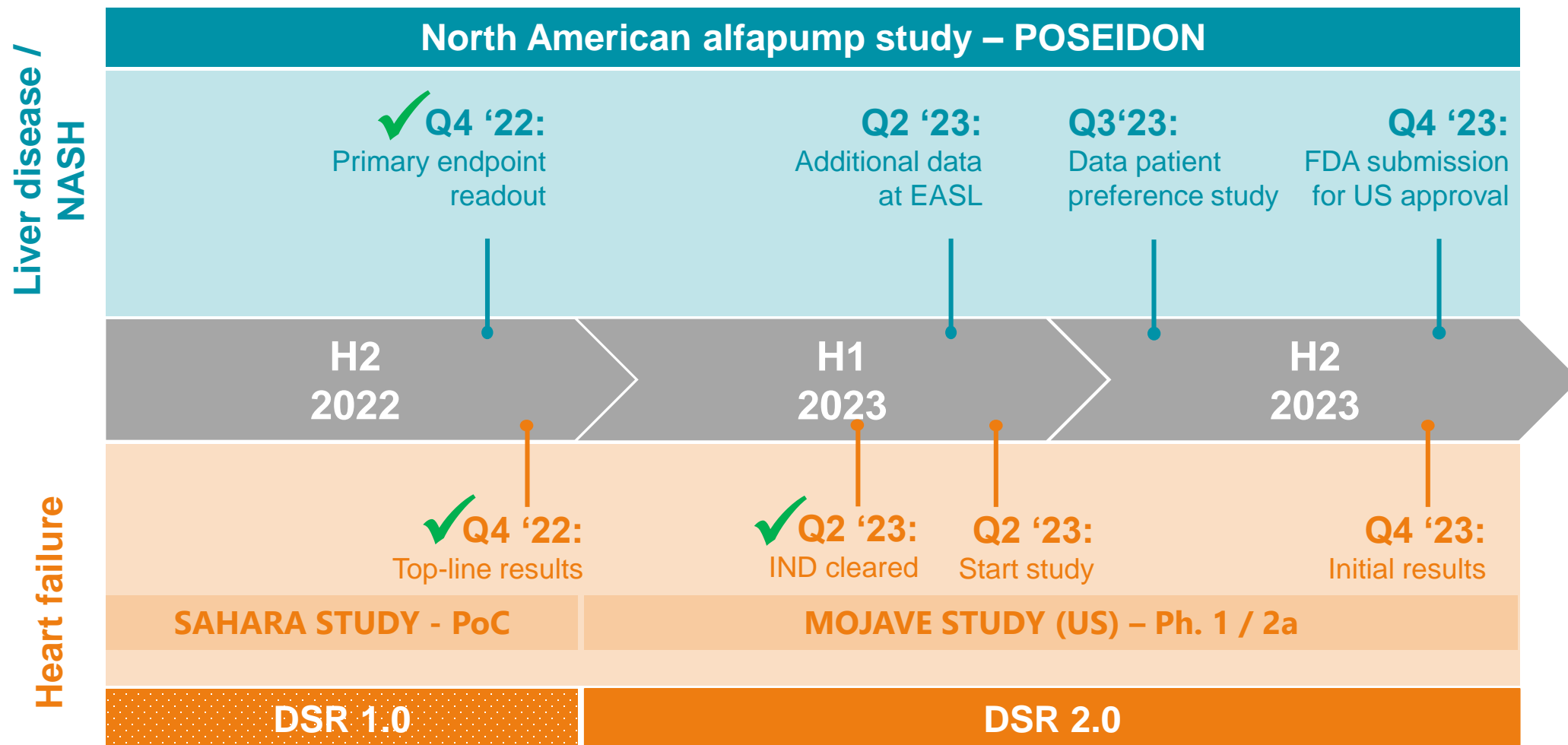


- **alfapump in liver disease – market potential growing to over \$2.5 billion by 2035⁽¹⁾**
 - Approved in EU / FDA breakthrough designation in US
 - North American pivotal POSEIDON study – all primary endpoints successfully met
 - PMA filing to US FDA planned for Q4 '23
 - Direct commercialization in US through salesforce targeting liver transplant centres



- **DSR in heart failure – multi-billion market opportunity**
 - Clinical proof-of-concept as disease-modifying heart failure drug therapy with DSR 1.0
 - Transitioning to DSR 2.0 – low development risk, improved profile & strong IP
 - US Ph. 1/2a randomized controlled study (MOJAVE) – initial data planned for Q4 '23
 - Establish partnership based on MOJAVE readout

Strong outlook for value drivers





alfapump®

Proven step change in the treatment of liver
refractory ascites



sequanamedical

alfapump

Eliminating fluid from the peritoneal cavity – working in partnership with the bladder



Fully implanted



Automatic operation



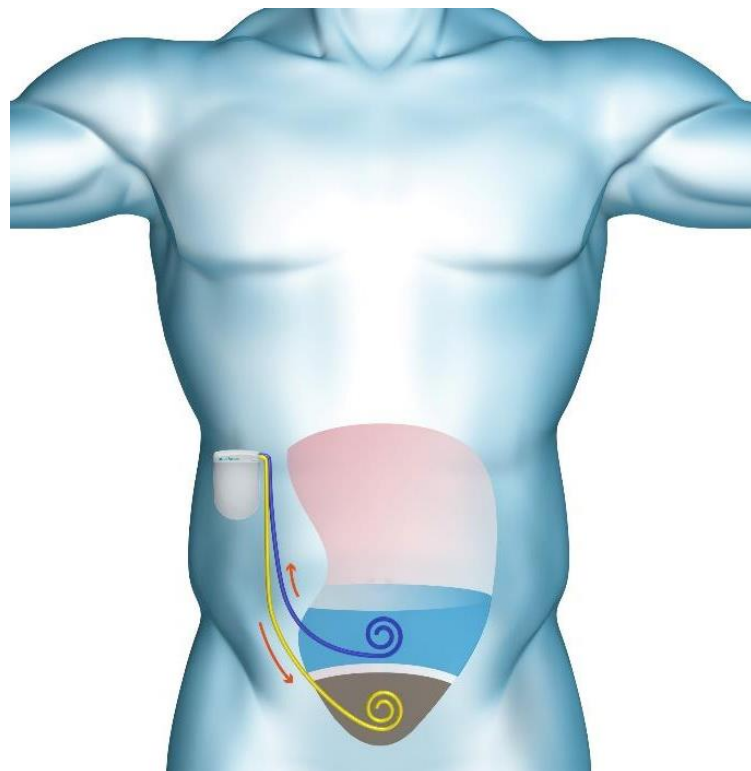
Wireless battery charging



Settings wirelessly adjusted



Remote data monitoring



Easy implantation



Long-term implantation & catheter patency



Moves up to 4 litres / day



Virtually non-clogging

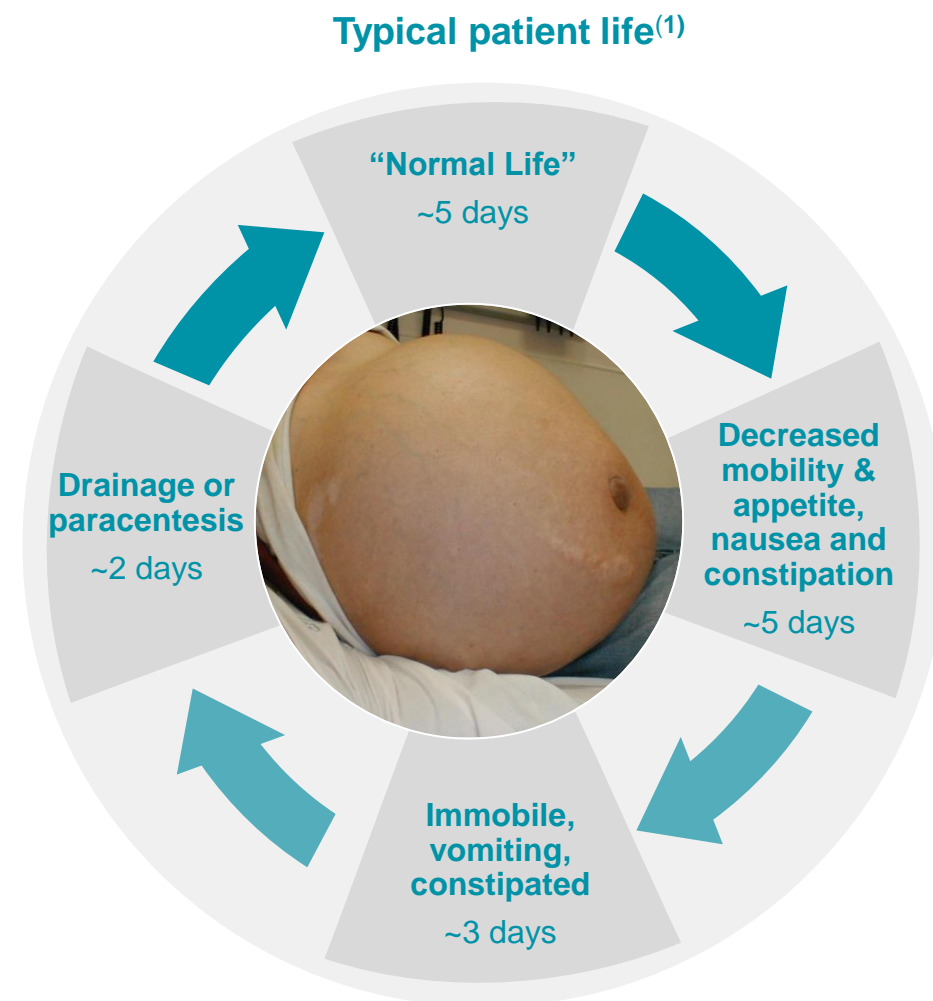
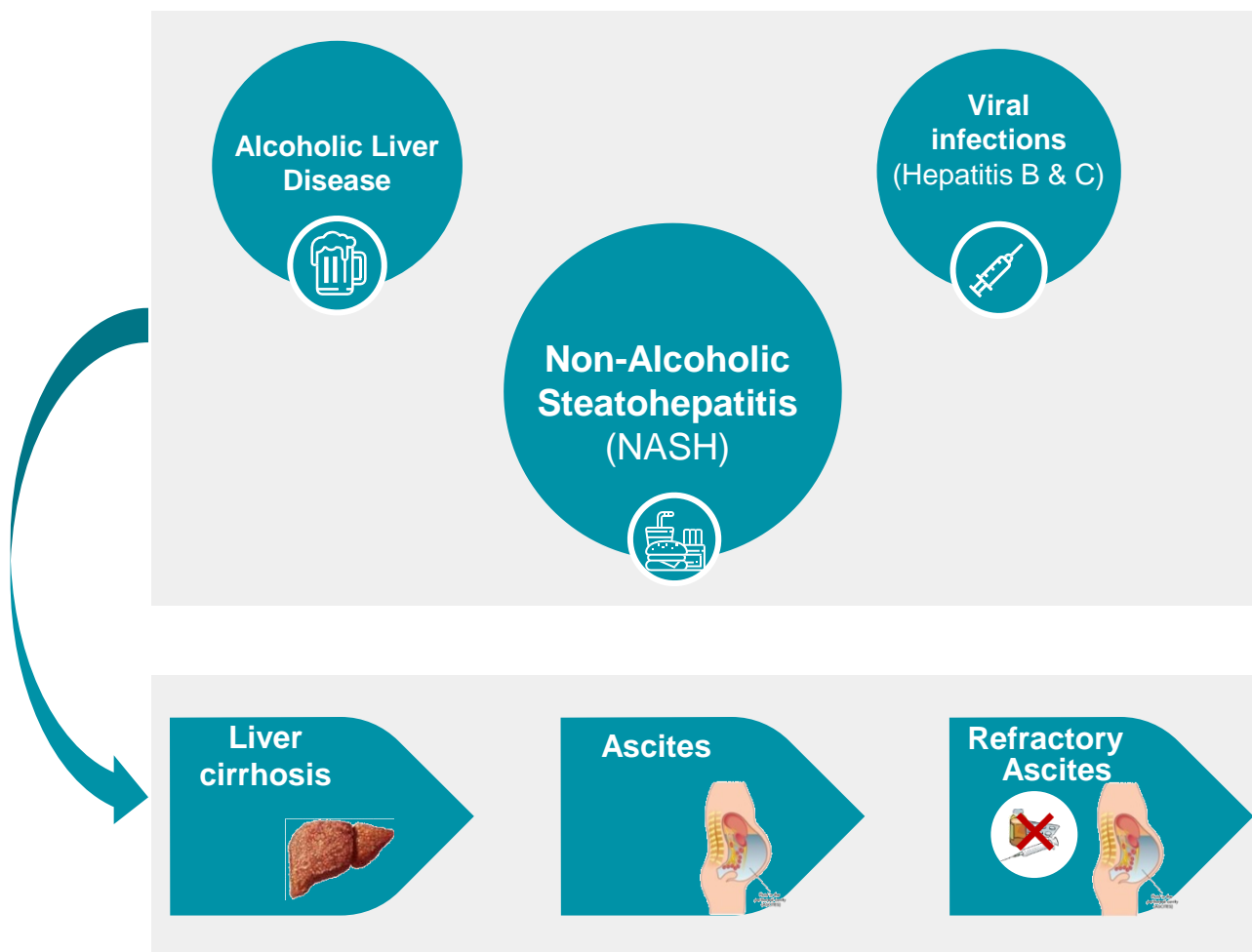


No significant heating during charging and operation

Proven capabilities – over 950 systems implanted
Strong IP barriers through extensive patent portfolio & know-how

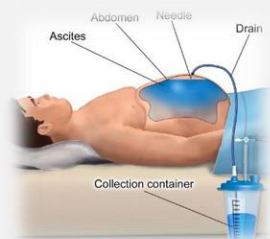
Refractory ascites – key complication of liver cirrhosis

Fatty liver disease / NASH is driving dramatic growth and change in attitudes to liver cirrhosis patients



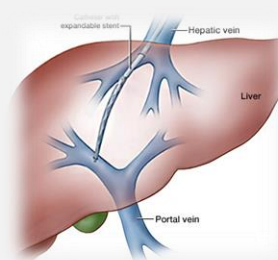
Limitations of existing therapies

Drainage (Large Volume Paracentesis / LVP)



Painful, Poor Quality of Life, Short Term Benefit

Transjugular Intrahepatic Portosystemic Shunt (TIPS)



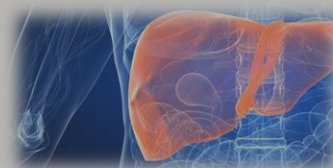
Complications, Contraindications

Permanent Catheter System



External Catheter, Risk for Infections / Blockage

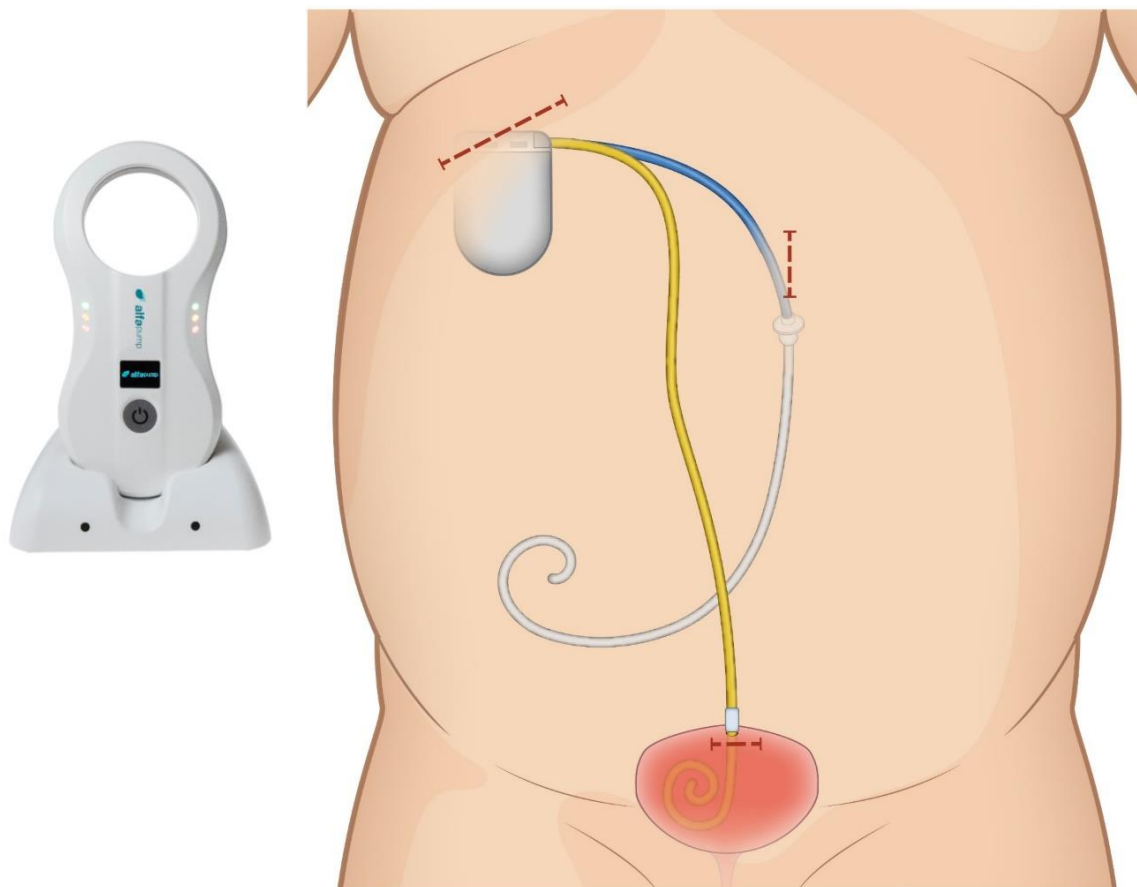
Liver transplantation



High Cost, Limited Availability Long Waitlist

alfapump strong clinical and economic rationale

Over 950 implants and hundreds of years of patient experience



- ✔ Reduced burden of disease
- ✔ Improved patient quality of life
- ✔ Cost savings for hospitals and payers

Estimated treatment cost / patient*:

LVP: ~\$66K



alfapump: ~\$37K



**Breakthrough Device
Designation**

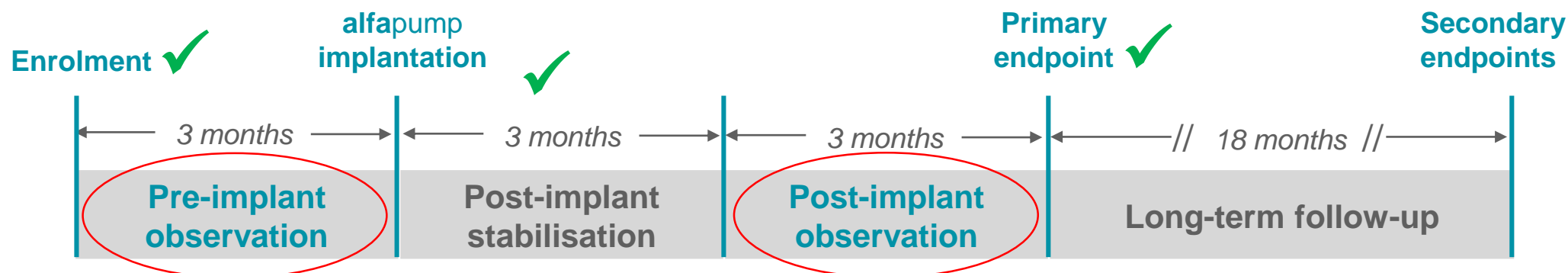


NICE
National Institute for
Health and Care Excellence



POSEIDON – North American pivotal study

Pivotal Cohort of 40 patients implanted with the alfapump



POSEIDON primary effectiveness endpoint hypotheses:

- 1) median per-patient ratio of post-implant three-month observation period to the pre-implant three-month observation period with respect to number of therapeutic paracentesis (TP) is less than 0.5 (or a median reduction of at least 50%)
- 2) at least 50% of patients achieve a 50% reduction in the requirement for TP in the same period

POSEIDON – successful North American pivotal study

40 patients with recurrent or refractory ascites due to liver cirrhosis implanted with the alfapump

Primary effectiveness endpoints exceed predefined thresholds for study success

- **100%** median per-patient reduction in therapeutic paracentesis ($p < 0.001$) ⁽¹⁾
 - *vs hypothesis of at least a 50% reduction*
- **77% of patients** with at least 50% reduction in therapeutic paracentesis ($p < 0.001$) ⁽¹⁾
 - *vs hypothesis of at least 50% of patients*

Primary safety endpoint data in line with expectations

- No unanticipated adverse device effects
- 6 primary safety events

“These positive top-line results are very encouraging, indicating that the alfapump could provide great benefits to patients with cirrhosis and ascites, and dramatically reduce their visits to the hospital for paracentesis.” – Dr. Wong, Principal Investigator POSEIDON

⁽¹⁾ post vs pre-implantation

Well positioned for successful US commercialization



Publications & presentations

Submit POSEIDON data for presentation at medical liver meeting & publication in peer-reviewed journal in **2023**



US patient preference study

Survey study to quantify patients' preferences for **alfapump**, including risk-benefit assessment

Top-line data expected in **Q3 2023**



US filing & approval

PMA filing planned for **Q4 2023**

FDA approval anticipated in **H2 2024**

Reimbursement for alfapump de-risked

- ✓ Existing hospital DRG payment for **alfapump** procedure*
- ✓ NTAP for breakthrough devices provides additional reimbursement in key Medicare population
- ✓ Proposed TCET pathway could lead to automatic coverage of breakthrough devices for a defined period by Medicare – our key population

On the basis of existing ICD-10 codes issued for the **alfapump, the likely DRG coding will be 423, 424 and 425 "OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES"*

PMA: Pre-Market Approval; **NTAP:** New Technology Add-On Payment; **TCET:** Transitional Coverage of Emerging Technologies

Large and growing North American patient population

NASH is forecast to drive significant growth for many years – and changing attitudes to cirrhosis

Patients with
recurrent or
refractory ascites
due to liver cirrhosis

Over
75,000

2025

6 – 7% CAGR

Over
170,000

2035

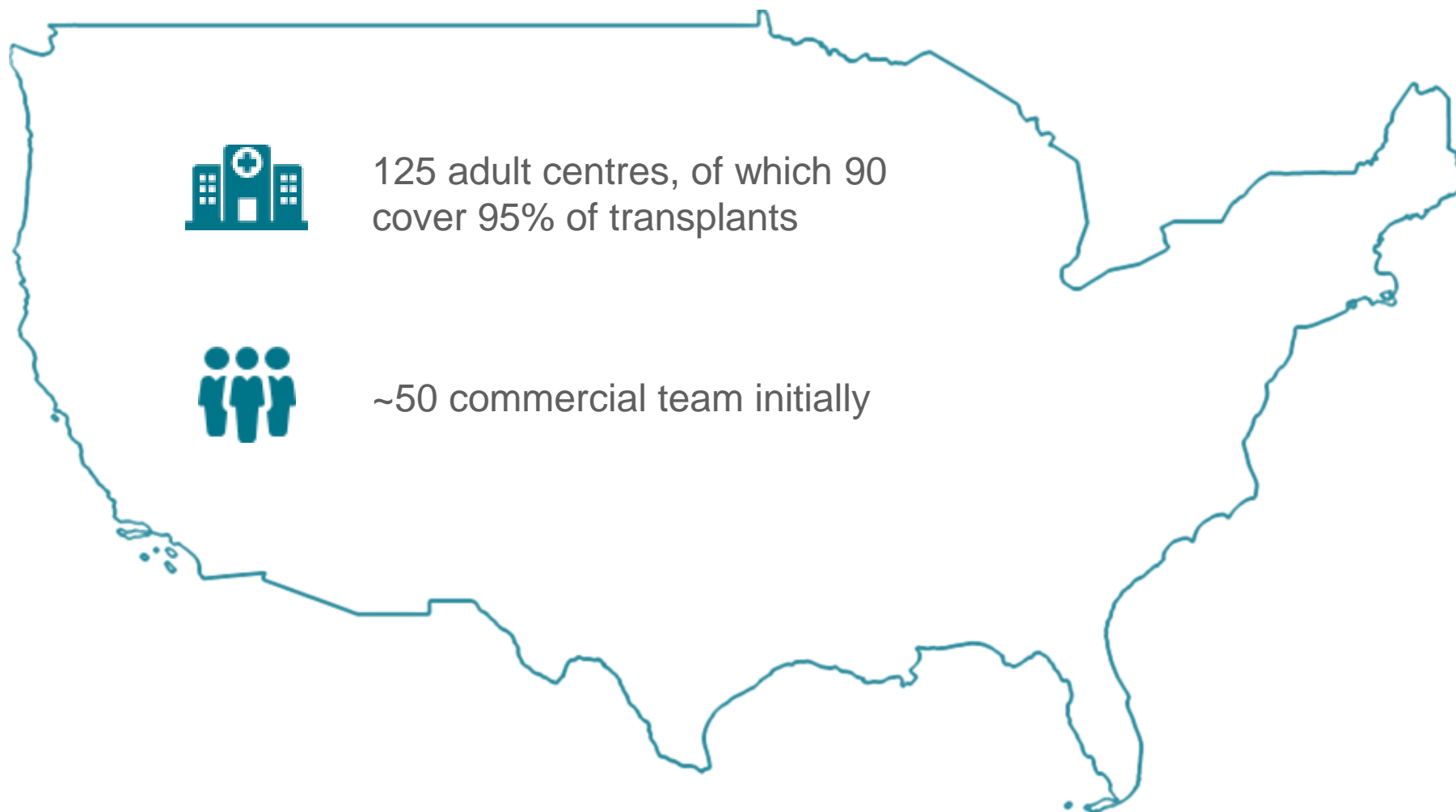
Market potential growing to over \$2.5 billion by 2035

Source: Based on US and Canada market assessment conducted by highly experienced international consulting group, using claims analysis for commercial and CMS (Center for Medicare and Medicaid Services) patients requiring paracentesis procedure with liver disease diagnosis codes; based on incidence rate of 60% and **alfapump** price of \$25K

CAGR: Compound Annual Growth Rate

US – Go direct to 90 liver transplant centers

Highly efficient approach to target doctors and patients – driven by treatment guidelines



DSR®

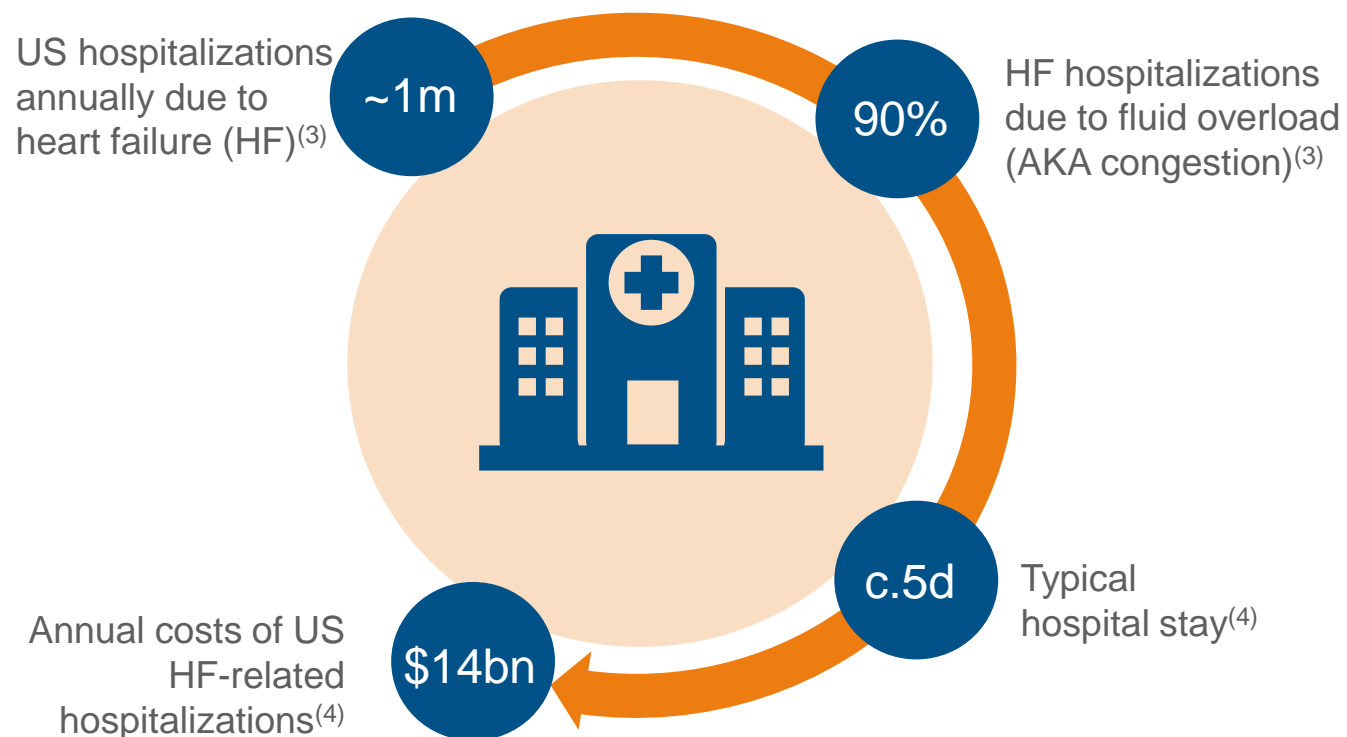
Disease-modifying heart failure drug therapy



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Congestion is key driver of morbidity & hospitalization

Diuretic-resistance in heart failure is common and there are few effective clinical alternatives

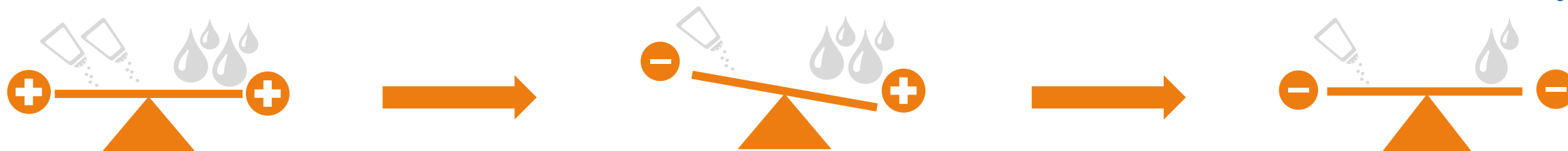


- *40% of heart failure patients on IV loop diuretics have a poor response⁽¹⁾*
- *24% re-admission rate at 30 days⁽²⁾*

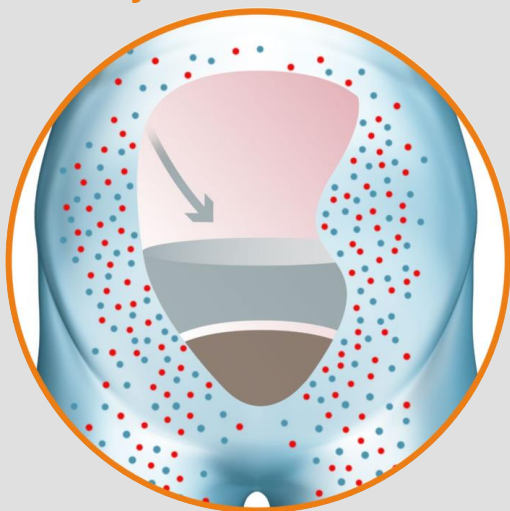


Direct Sodium Removal (DSR)

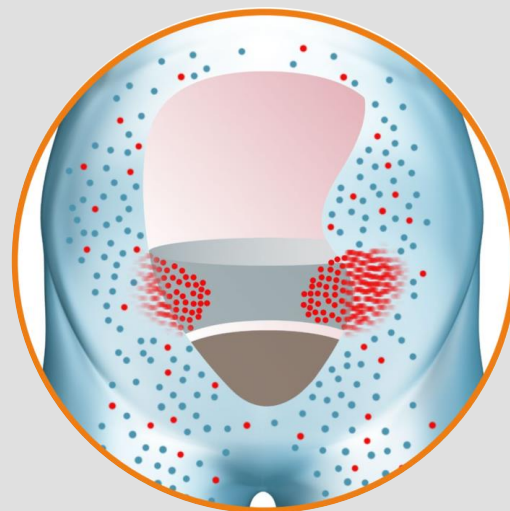
Eliminating fluid spread across the body – working in partnership with the kidneys



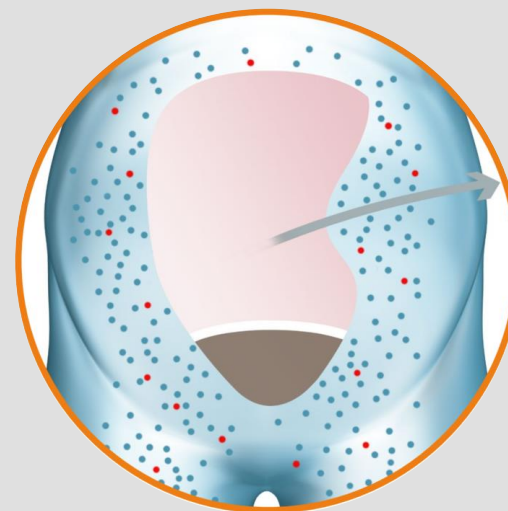
- 1 Sodium-free DSR product administered to peritoneal cavity



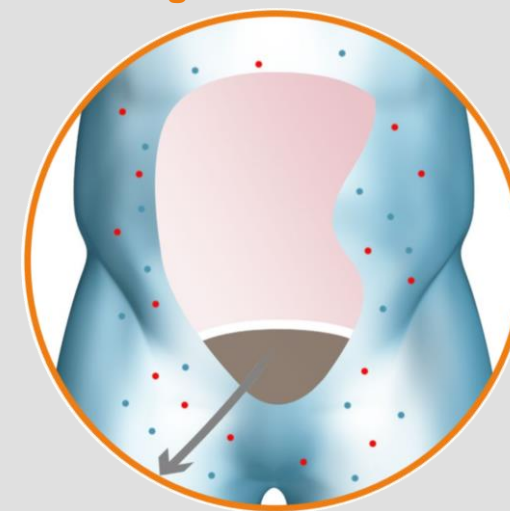
- 2 Sodium diffuses from body into DSR product



- 3 DSR product + extracted sodium removed from body



- 4 Body eliminates free water to restore sodium balance, reducing the fluid overload



DSR – disease-modifying heart failure drug therapy

RED DESERT and SAHARA deliver clinical proof-of-concept with long-lasting clinical benefits

Clinically meaningful decongestion and durable improvements in cardio-renal health

- ✓ Safe, effective and rapid elimination of fluid overload / restoring euvolemia
- ✓ Considerable benefit in cardio-renal status
- ✓ Dramatic and sustained improvement in diuretic response

Leading to improved clinical outcomes

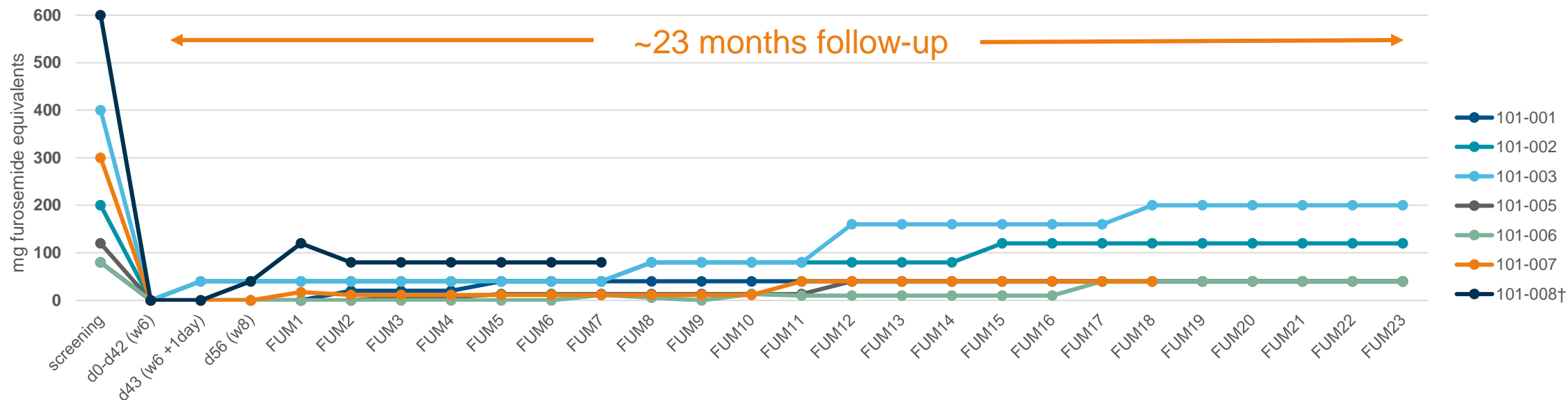
- ✓ No congestion-related heart failure re-hospitalizations
- ✓ Long-term and major reduction in loop diuretic dosing post-DSR therapy
- ✓ One class improvement of NYHA status
- ✓ Over 75% reduction in predicted one-year mortality based on Seattle Heart Failure Model

“These results are highly encouraging and indicate the potential for DSR therapy to deliver clinically meaningful decongestion and durable improvements in cardio-renal function and thus diuretic response” – Dr. Testani, Yale

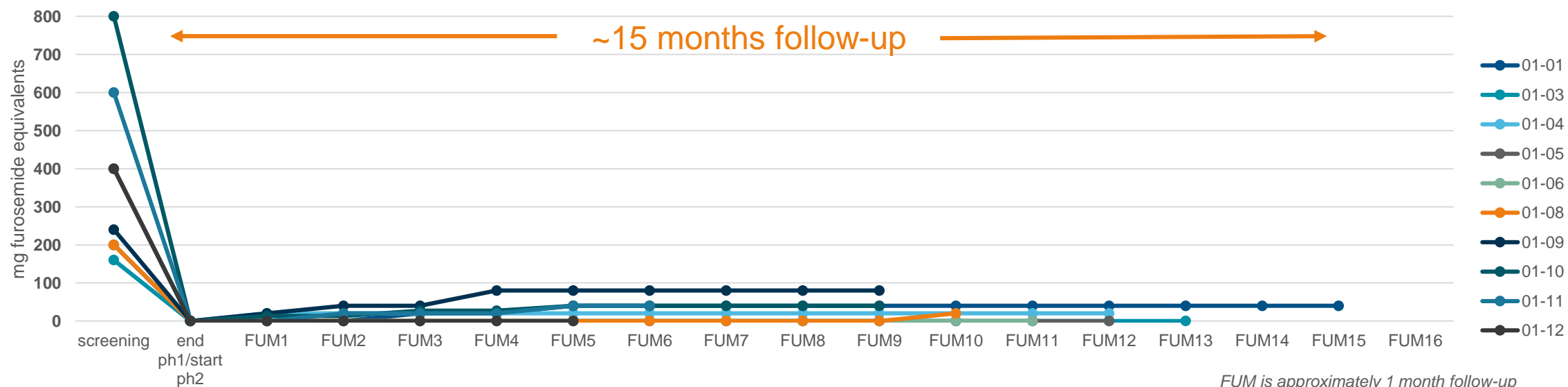
Long-term & major reduction in loop diuretic dosing

Clear demonstration of improvement in cardiovascular & renal health – driving improved clinical outcomes

RED DESERT



SAHARA



DSR 2.0 has improved therapeutic and safety profile

Strong granted IP drives high margin recurring revenue stream

DSR 1.0

Sodium-free D10% (off-the-shelf)

- ✓ Clinical proof-of-concept
- ✓ Rapid clinical path
- ~ Therapeutic profile / Ease of use
- ~ Safety profile

✓ RED DESERT ✓ SAHARA



DSR 2.0

Sodium-free dextrose / icodextrin (proprietary)

- ✓ Improved therapeutic profile
- ✓ Favorable safety profile
- ✓ Strong granted IP position in US & Europe
 - “Low or no sodium drug for the treatment of heart failure”
 - Drives recurring revenue from high gross margin consumable

✓ CHIHUAHUA – MOJAVE



MOJAVE – Phase 1/2a randomized controlled US study

DSR 2.0 evaluated in diuretic-resistant chronic heart failure patients with persistent congestion

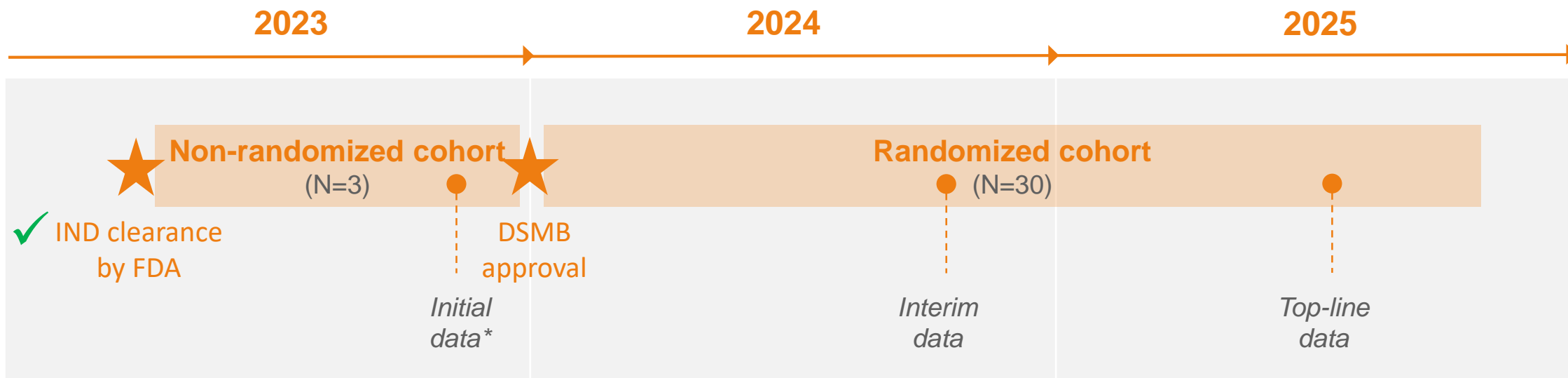
- ✓ Safety of DSR 2.0 demonstrated in GLP animal and Phase 1 clinical studies
- ✓ US IND cleared by FDA



- Non-randomized cohort (N=3)
- Randomized cohort (N=30): following DSMB approval of non-randomized cohort
 - DSR group (N=20): DSR 2.0 (up to daily) + usual care
 - Control group (N=10): optimized usual care + IV loop diuretic treatment

MOJAVE – initial data expected in Q4 2023

Top-line data in mid 2025 intended to deliver the clinical data package for partnering



Endpoints

- **Safety:** rate of adverse and serious adverse events
- **Efficacy:** improvement in diuretic response (6-hour urine sodium output)
- **Exploratory:** change in weight (volume status), creatinine (renal function), natriuretic peptides (heart function), NYHA functional class, number of HF-related re-hospitalizations

* Data from three patients in non-randomized cohort

Multi-billion market opportunity for DSR

Delivering value through reduced hospitalization and improved survival

- ~400K chronically congested HF patients hospitalized per year in the US and EU (“frequent flyers”)
 - High cost patients with major burden on healthcare systems, payors and patients
- Value based pricing of DSR product driven by:
 - ⇒ Reduction in re-hospitalization ~\$45K annual HF hospitalization cost per patient
 - ⇒ Increase in survival (gain in quality-adjusted life-year, “QALY”)

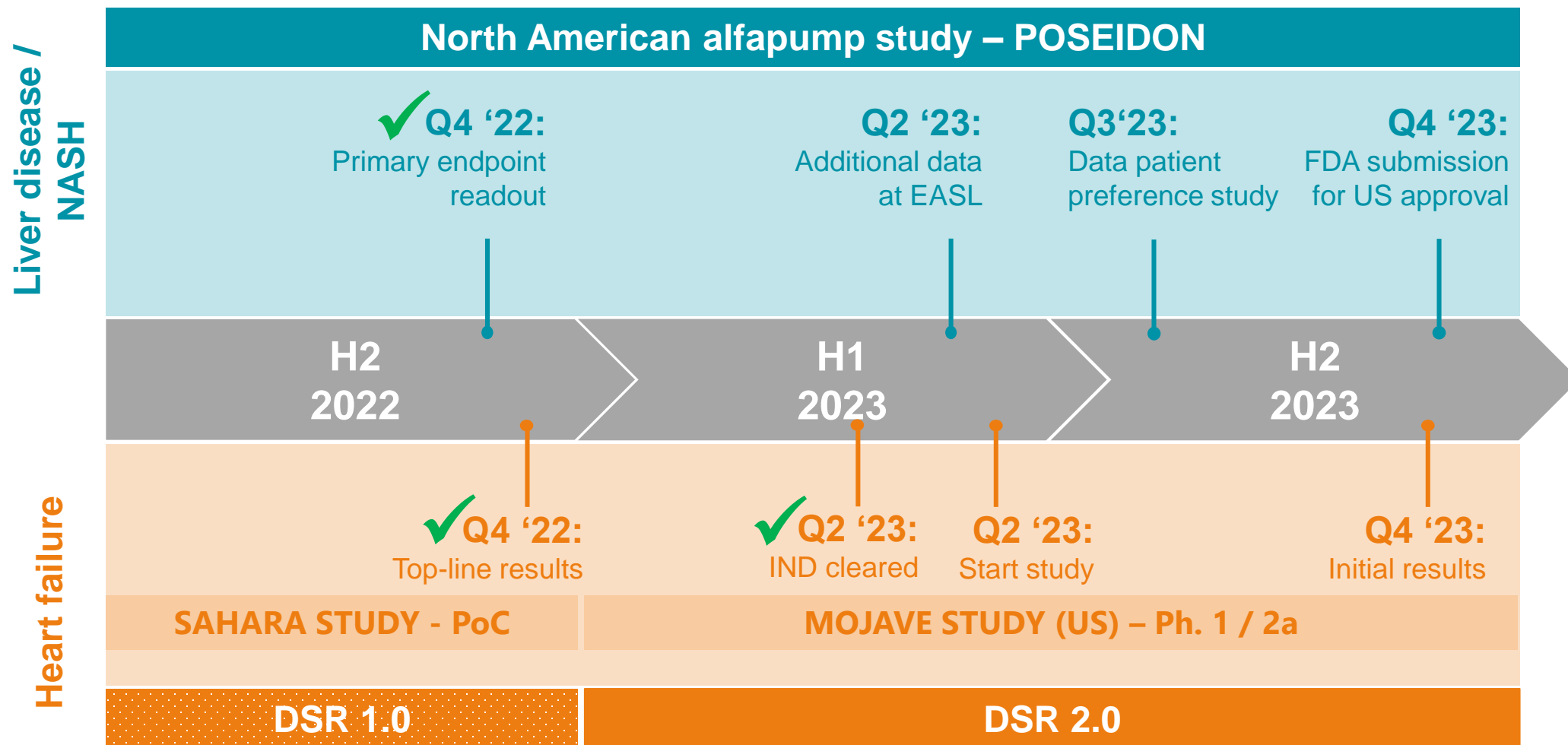


Outlook

Strong near term value drivers with clear
long term potential

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Strong outlook for value drivers



Leader in large and growing markets with unmet needs



alfapump® in liver disease – market potential growing to over \$2.5 billion by 2035⁽¹⁾

- NASH is changing liver cirrhosis market and driving strong growth
- Approved in EU / FDA breakthrough device status / Strong IP portfolio
- North American pivotal study – reported strong primary endpoint data
- North American approval expected in 2024 / Go direct to 90 adult liver transplant centers



DSR® in heart failure – multi-billion market opportunity in EU and US

- Clinical proof-of-concept as disease-modifying heart failure drug with DSR 1.0
- Transitioning to proprietary DSR 2.0 – low development risk, improved profile & strong IP
- MOJAVE US randomized controlled Ph. 1/2a – initial data planned for Q4' 23
- Establish partnership based on MOJAVE top-line data in mid '25

Contact info

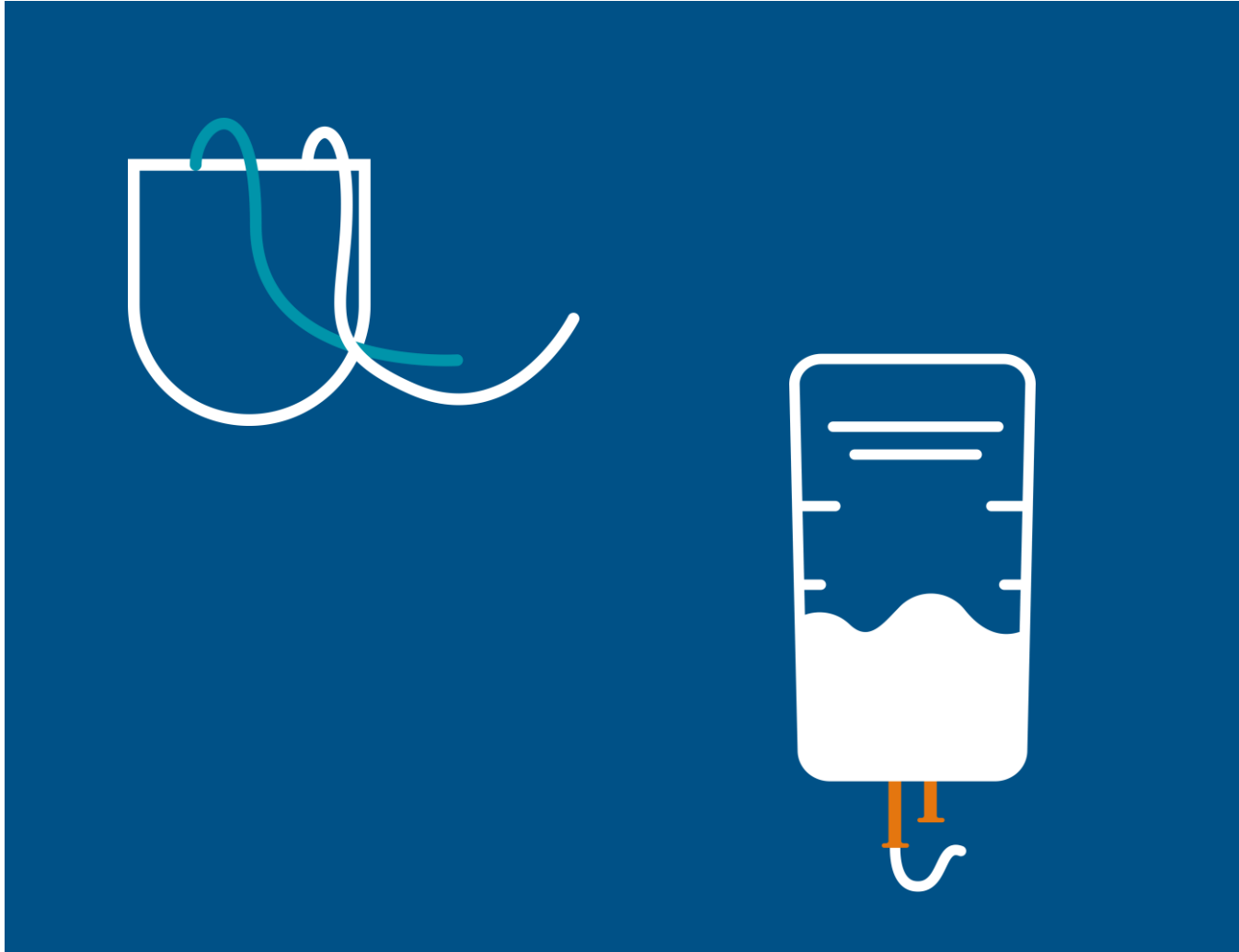
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Back-up

Sequana Medical NV

- Founded in 2006
- Gent, Belgium (HQ): corporate, clinical, commercial
- Zurich, Switzerland: manufacturing, engineering, QA/RA
- ~60 employees
- Euronext Brussels: SEQUA



Strong organisation

Highly experienced leadership team supported by committed and well-reputed shareholders

Executive team:



Ian Crosbie
Chief Executive Officer



Kirsten Van Bockstaele
Chief Financial Officer



Oliver Gödje
Chief Medical Officer



Dragomir Lakic
VP Manufacturing



Gijs Klarenbeek
Senior Medical Advisor



Martijn Blom
Chief Commercial Officer



Timur Resch
Global VP QM/QA/RA



Andreas Wirth
VP Engineering

Board of Directors:



Pierre Chauvineau
Board Chairman



Ian Crosbie
Chief Executive Officer



Wim Ottevaere
Director



Jackie Fielding
Director



Rudy Dekeyser
Director



Doug Kohrs
Director

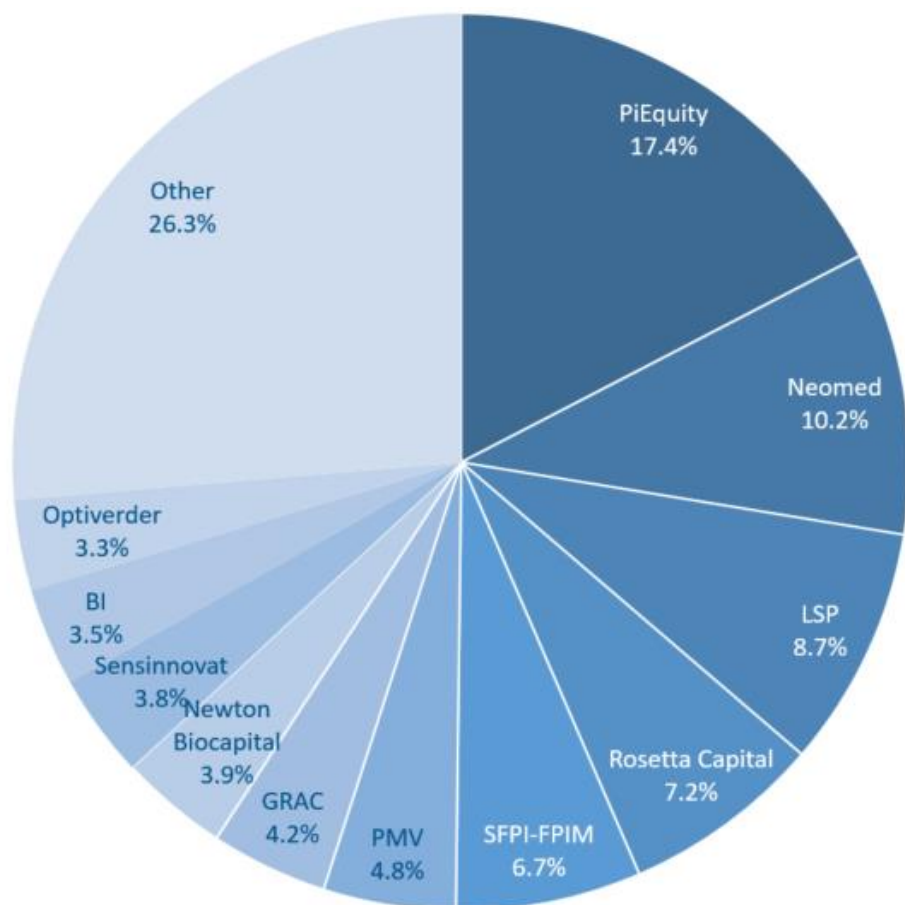


Alex Clyde
Director

Shareholders base and financial overview

Ticker: SEQUA – Euronext Brussels

- Outstanding shares: 28.2M
- Outstanding shares corresponding to outstanding share options: 3.9M

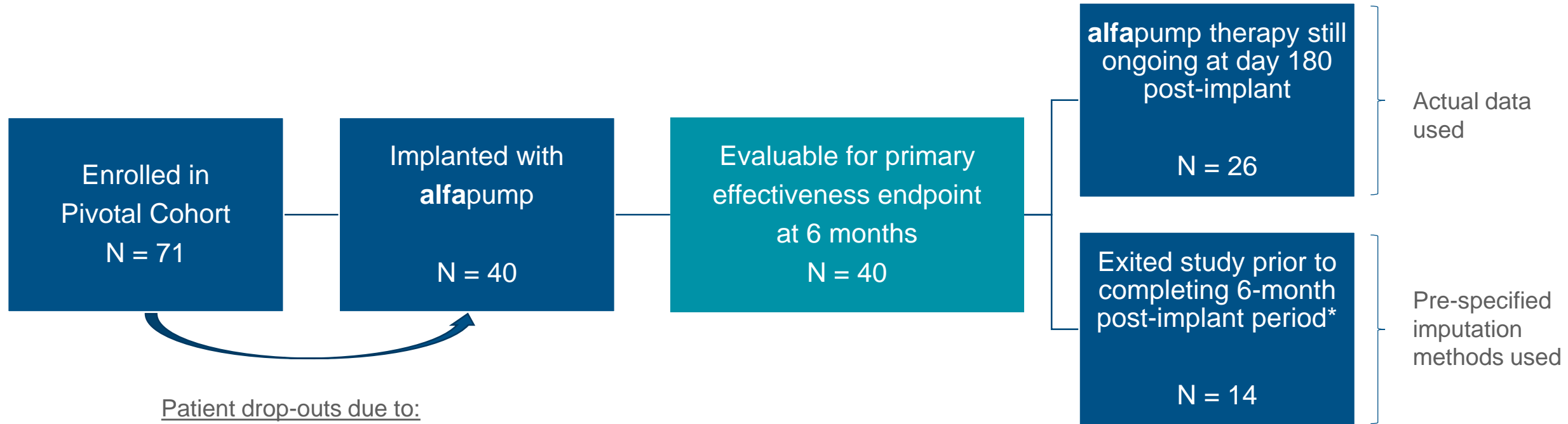


- Analysts:
 - Degroof Petercam – Laura Roba
 - Edison – Pooya Hemami
 - H.C. Wainwright – Yi Chen
 - KBC Securities – Jeroen Van den Bossche
 - Van Lanschot Kempen – Suzanne van Voorthuizen
 - Kepler Cheuvreux – Arsene Guekam
- Cash (31 December 2022): €18.9M
- Cash runway into Q1 2024



POSEIDON: Pivotal cohort

More than 1/3 of patients implanted with the alfapump had NASH or combined NASH etiology



Patient drop-outs due to:

- COVID-19 related delays in elective surgery
- Not meeting inclusion criteria at time of implant decision

* Reasons for exiting study:

- death or withdrawal due to unrelated AE, liver transplant (N=8)
- **alfapump** system, procedure or therapy related AE (N=6)



POSEIDON: Primary effectiveness endpoints met

Results substantially exceeded the predefined thresholds for study success

Pivotal Cohort N = 40	%*	p-value**
1. Frequency of Therapeutic Paracentesis (TP) a. median per-patient ratio b. mean per-patient ratio	100% reduction 82% reduction	p<0.001 Not applicable
2. Proportion of patients with a 50% reduction in number of TP post- vs pre-implantation	77% of patients	p<0.001

“These positive top-line results are very encouraging, indicating that the alfapump could provide great benefits to patients with cirrhosis and ascites, and dramatically reduce their visits to the hospital for paracentesis.” – Dr. Wong, Principal Investigator POSEIDON

* Using pre-specified imputation methods for 14 patients that had exited the study prior to completing the 6-month post-implantation period.

** As per primary effectiveness endpoint hypotheses. Per protocol, testing conducted using nonparametric methods for data that is not normally distributed.



POSEIDON: Primary safety endpoint in line with expectations

Primary safety endpoint (pivotal cohort N = 40):

- Combined rate of i) open surgical re-intervention due to pump system-related AE or to restore pump functionality, ii) pump explant (without replacement) due to pump system-related AE, or iii) pump system-related death from time of pump implant through 6 months post-implantation as adjudicated by the CEC
- No unanticipated adverse device effects
- Six primary safety events – in line with expectations:
 - Wound erosion – **alfapump** explant 3 in 3 patients
 - Patient-reported discomfort – **alfapump** explant 3 in 3 patients ➡ CEC: moderate severity

“The safety data regarding the primary safety endpoint are in line with expectations and reassuring for the potential of the alfapump as a long-term treatment in this patient population”
– Dr. Wong, Principal Investigator POSEIDON



POSEIDON: Observed data from patients completing alfapump therapy through day 180 post-implant*

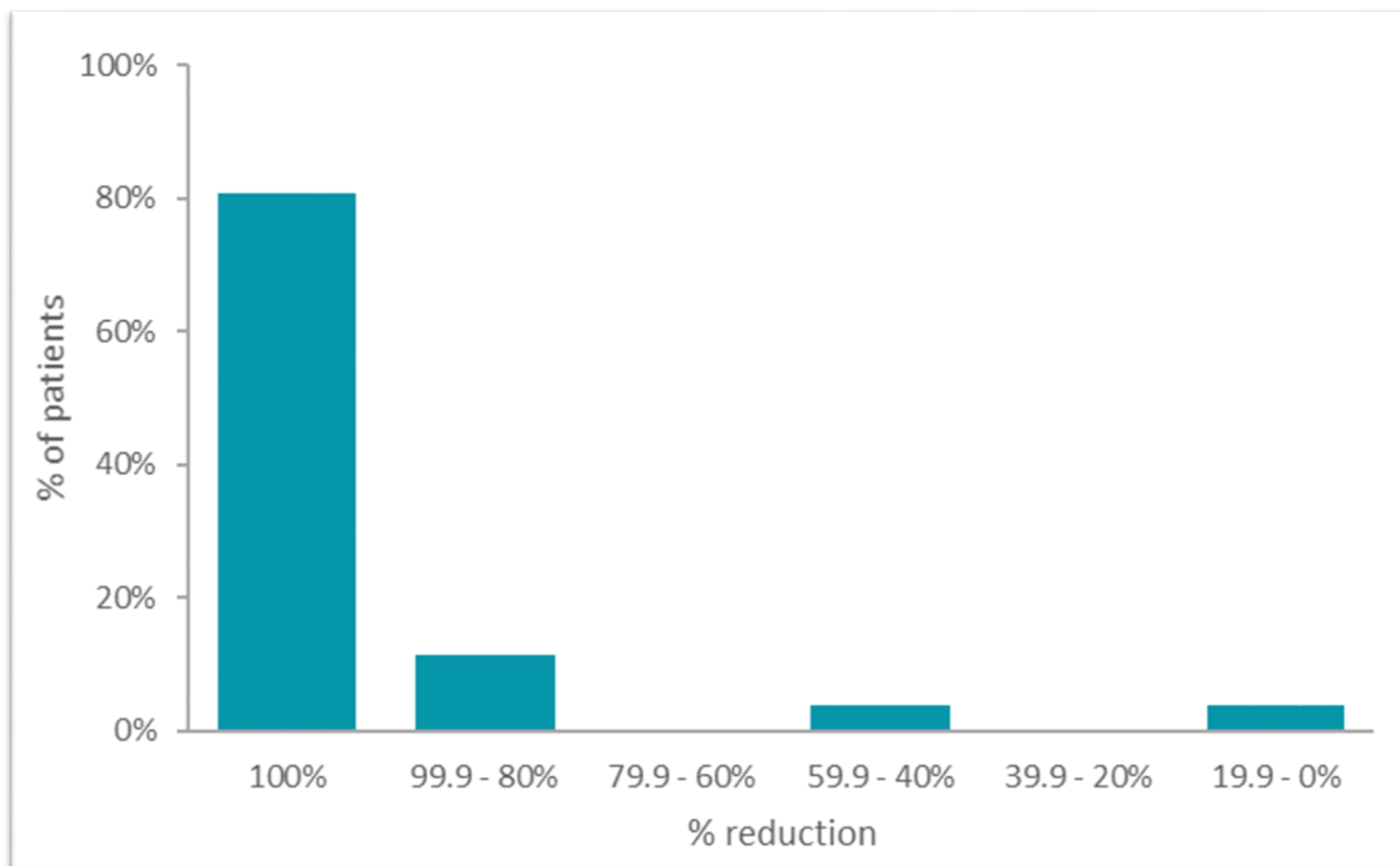
Pivotal Cohort N = 26	%
1. Frequency of TP <ul style="list-style-type: none">a. median per-patient ratiob. mean per-patient ratio	100% reduction 93% reduction
2. Proportion of patients with a 50% reduction in number of TP post- vs pre-implantation	92% of patients

* These observed patient data are not part of the main primary effectiveness endpoint analysis.



POSEIDON: Observed data from patients completing alfapump therapy through day 180 post-implant*

Distribution of reduction in Therapeutic Paracentesis post-implant vs pre-implant (Pivotal Cohort N = 26)



* These observed patient data are not part of the main primary effectiveness endpoint analysis.



POSEIDON Roll-In Cohort: Patient profile

26 patients with recurrent or refractory ascites

Age (mean)	63 y
MELD score (mean \pm SD)	10.3 \pm 3.9
Cirrhosis etiology	
- Alcohol	- 50.0%
- NASH	- 23.1%
- NASH / Alcohol	- 3.8%
- Alcohol / Hepatitis	- 11.5%
- Alcohol / Primary Sclerosing Cholangitis	- 3.8%
- Hepatitis C	- 3.8%
- Budd Chiari Syndrome	- 3.8%
TP per month prior to study (mean \pm SD)	3.8 \pm 1.4

N. American patients are treated early in their disease

NASH is becoming a major driver of ascites market

Higher number of TP compared to Europe



POSEIDON: QoL assessment

Two validated QoL methodologies are part of secondary endpoints

- SF-36:
 - General health-survey questionnaire
 - Endpoint: improvement* in SF-36 Physical Component Score
 - Subdomains of Physical Component Score: physical functioning, role physical, bodily pain, general health
- Ascites Q:
 - Specific health-survey questionnaire for ascites
 - Endpoint: improvement* in Ascites-Q Score
 - Subdomains of Ascites-Q: abdominal fullness, lack of appetite, early satiety, nausea, abdominal pain, back pain, short of breath

QoL scores over time are compared to baseline, so do not reflect anticipated decline in QoL scores due to disease progression.

Therefore any reduction in QoL benefit over time may well be due to advancement of underlying disease rather than decline in alfapump benefit.

** For the pivotal cohort analysis: Improvement in quality of life measure in the post-implant 3-month primary endpoint observation period as compared to the pre-implant 3-month observation period*

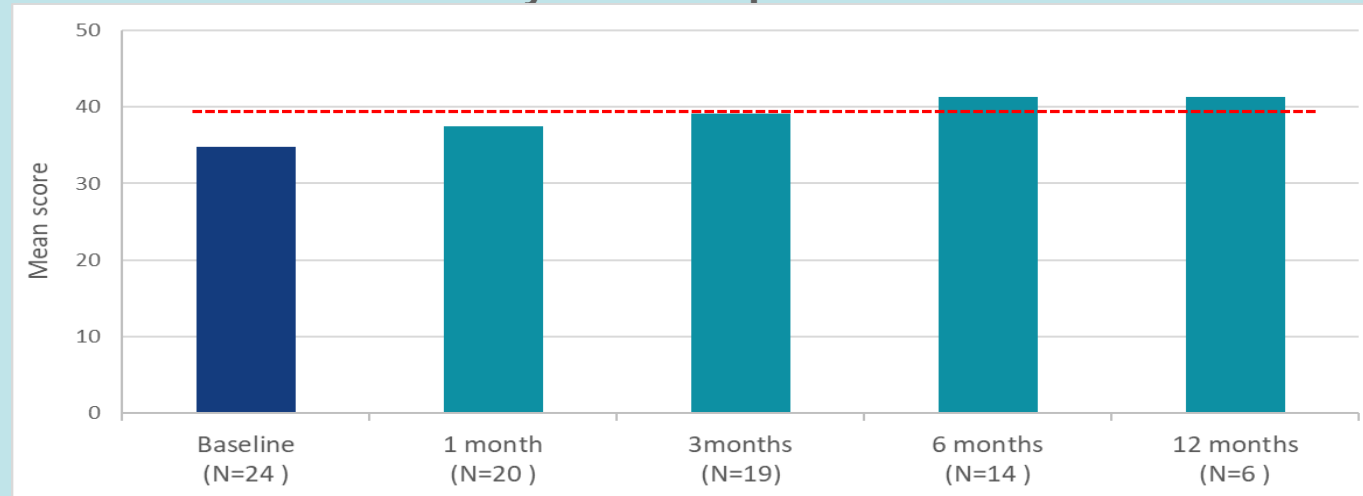


POSEIDON Roll-In Cohort: Clinically important improvement in quality of life maintained up to 12 months

SF-36

*General health-
survey
questionnaire*

Physical Component Score



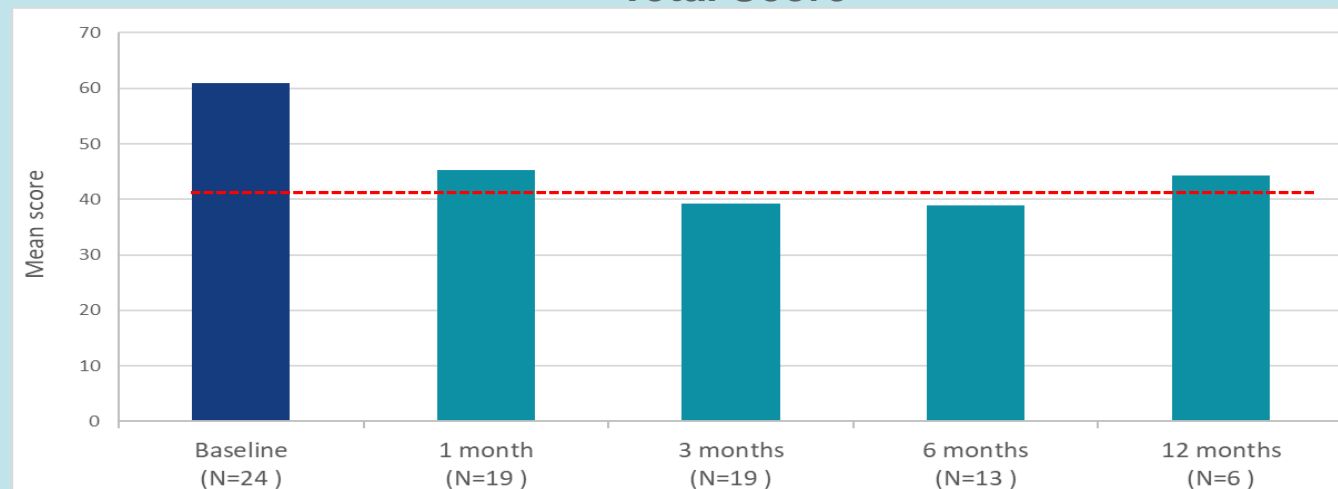
Higher is
better



Ascites Q

*Specific health-
survey
questionnaire
for ascites*

Total Score



Lower is
better



* Clinically important improvement: exceeding the threshold for Minimal Clinically Important Difference



SF-36 Physical Component Score is an independent predictor of mortality*

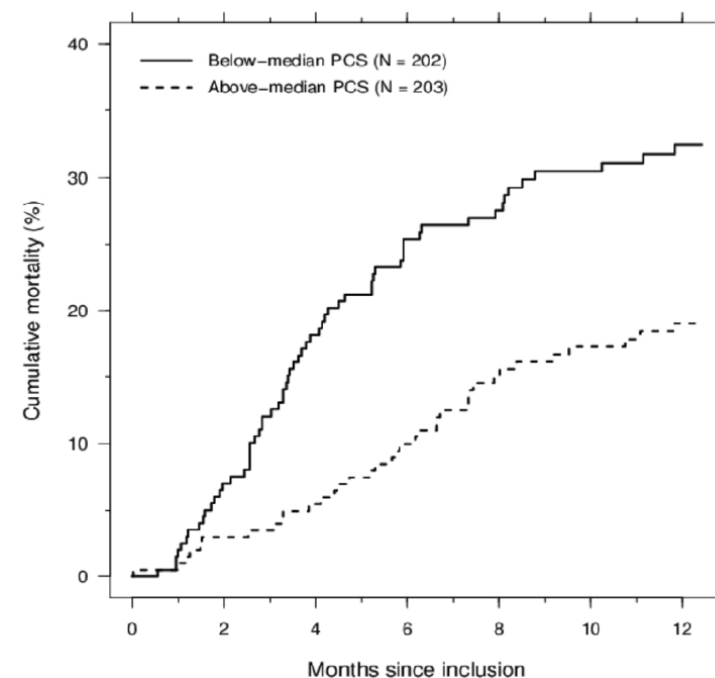
Multicenter randomized controlled study in patients with recurrent (N=164) and refractory (N=241) ascites

Patients stratified by survival 1 year after follow-up

Physical component score (range)	PCS of patients who died during follow-up	PCS of patients who survived follow-up	P-value
Physical component score	34 (24-49)	41 (29-53)	0.01
Physical function	45 (25-65)	50 (30-70)	0.42
Role Physical	0 (0-25)	0 (0-50)	0.05
Bodily pain	42 (22-80)	54 (41-74)	0.05
General health	35 (27-50)	40 (30-55)	0.12

- Patients that survived follow-up of 1 year were associated with higher median physical component scores

Cumulative all-cause mortality for patients below or above median physical component score (PCS)



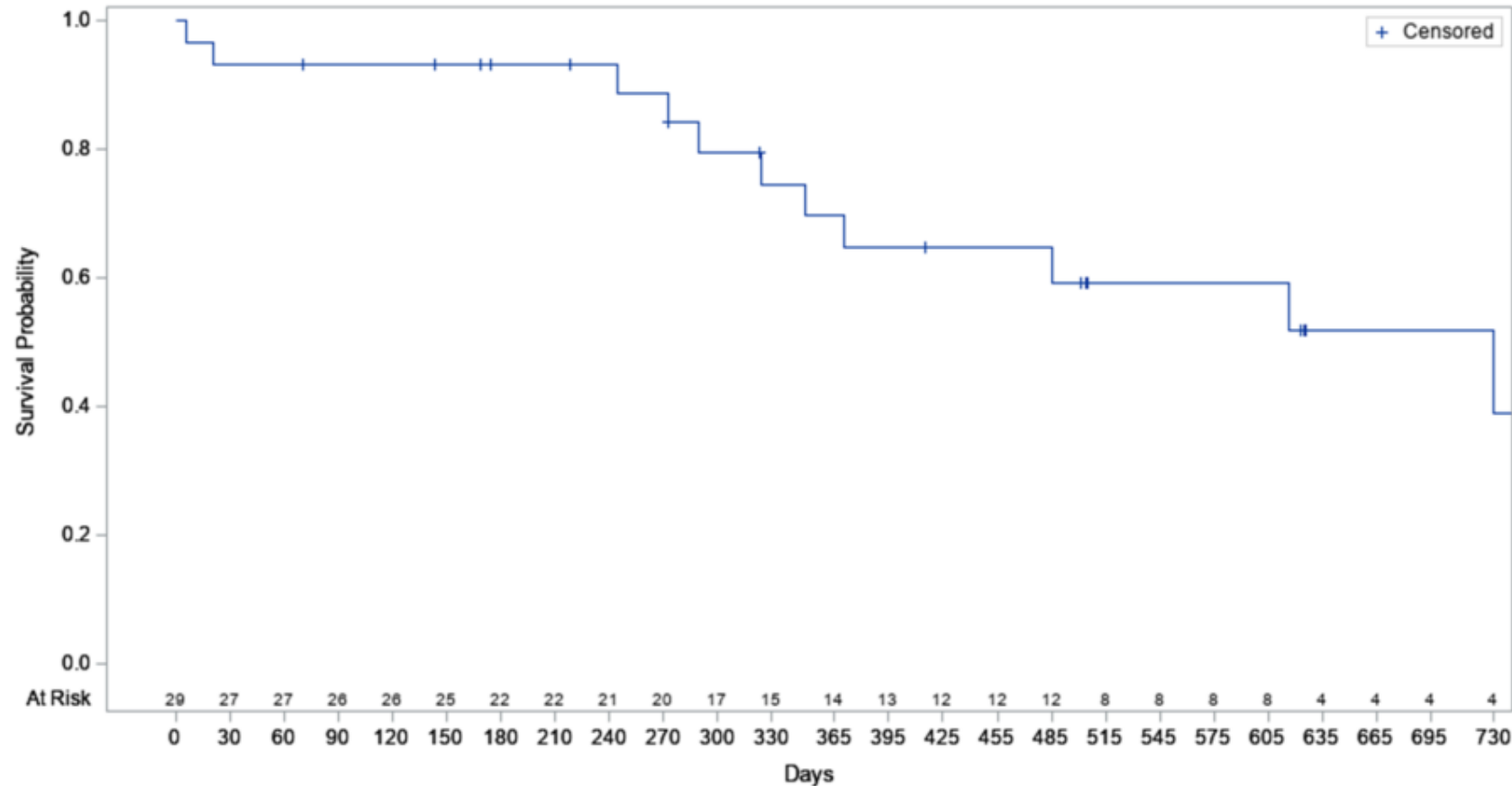
A higher physical component score in the SF-36 QoL tool predicted lower risk of death

* Source: MacDonald and Jalan et al. – poster presentation at The International Liver Congress EASL 2018



Interim POSEIDON: 70% survival at 12 months*

Compares favourably to published literature



***Published literature cited in AASLD practice guidelines:
survival rate for refractory ascites patients of only 50% at 12 months¹***


*Preliminary survival rate analysis of Roll-In Cohort (25 March 2022)

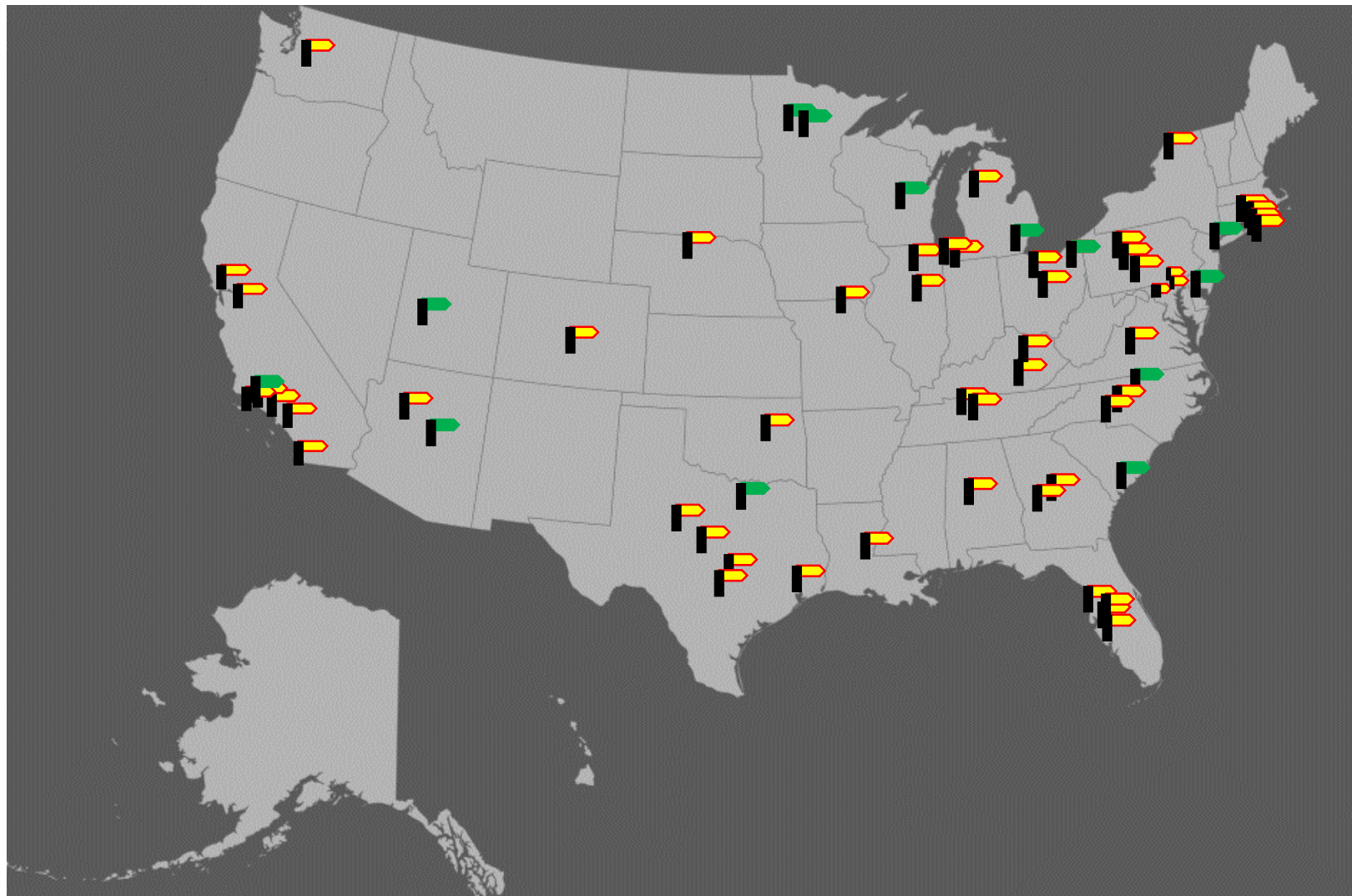
Source 1: Biggins et al., Hepatology, Vol. 74, No. 2, 2021, AASLD Practice Guidance; Moreau R et al., Liver International 2004; 24: 457-464



Top 60 liver transplant centers (2021)

Top 60 centers cover 80% of transplants (6,967 out of 8,685)

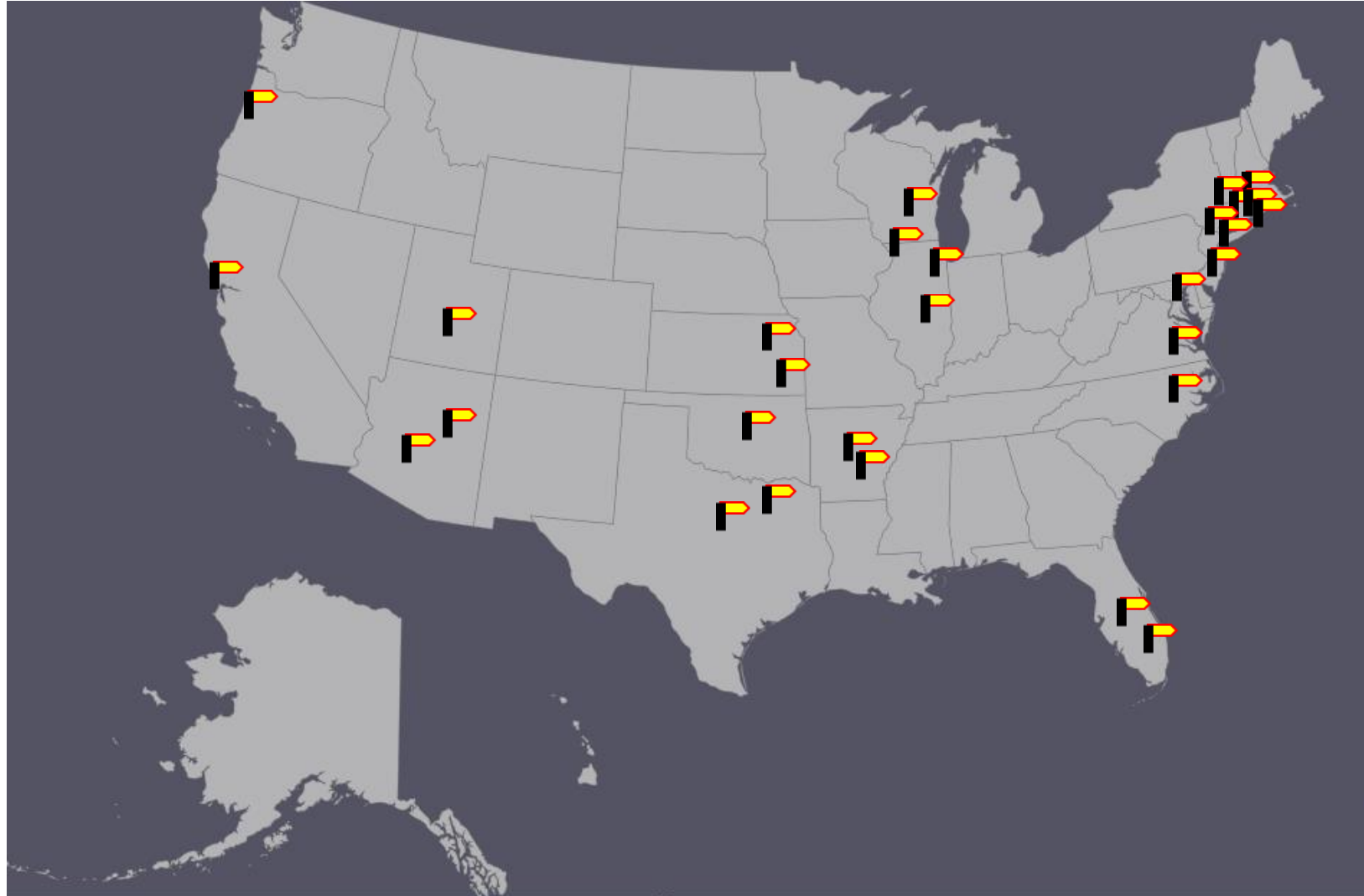
 POSEIDON
center
(N = 13)





Top 61 – 90 liver transplant centers (2021)

30 centers cover 15% of transplants (1,347 out of 8,685)





Leading experts as Heart Failure Scientific Advisors



Dr. Maria Rosa Costanzo

Medical Director of the Edward Center for Advanced Heart Failure
Medical Director Heart Failure Research for the Advocate Heart Institute



Dr. Wilson Tang

Professor of Medicine at Cleveland Clinic Lerner College of Medicine at Case Western Reserve University



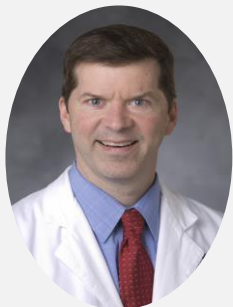
Dr. Javed Butler

Professor and Chairman of the Department of Medicine at the University of Mississippi Medical Center



Dr. Jeffrey Testani

Associate Professor of Medicine and Director of Heart Failure Research at Yale University School of Medicine



Dr. Michael Felker

Professor of Medicine in the Division of Cardiology at Duke University School of Medicine
Director of Cardiovascular Research at the Duke Clinical Research Institute and Vice-Chief for Clinical Research in the Division of Cardiology

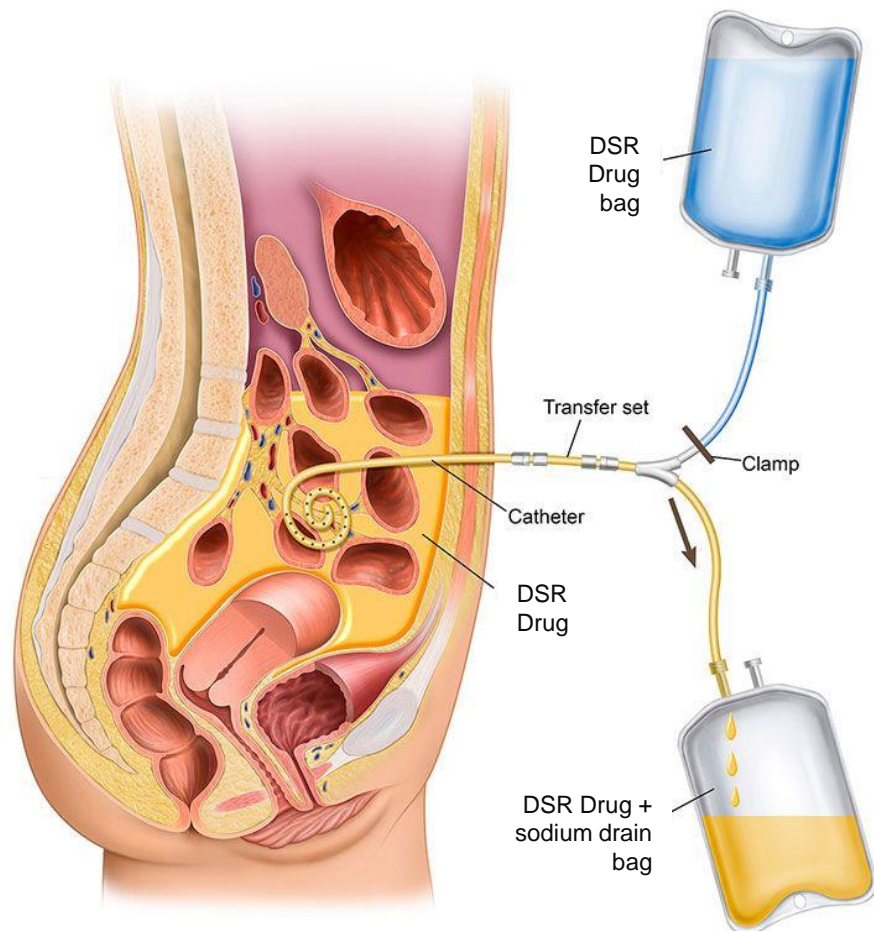


Dr. James Udelson

Chief of the Division of Cardiology at Tufts Medical Center
Professor of Medicine and Radiology at Tufts University School of Medicine



DSR therapy treatment overview



Step 1: Peritoneal catheter placement

Step 2: DSR treatment episode

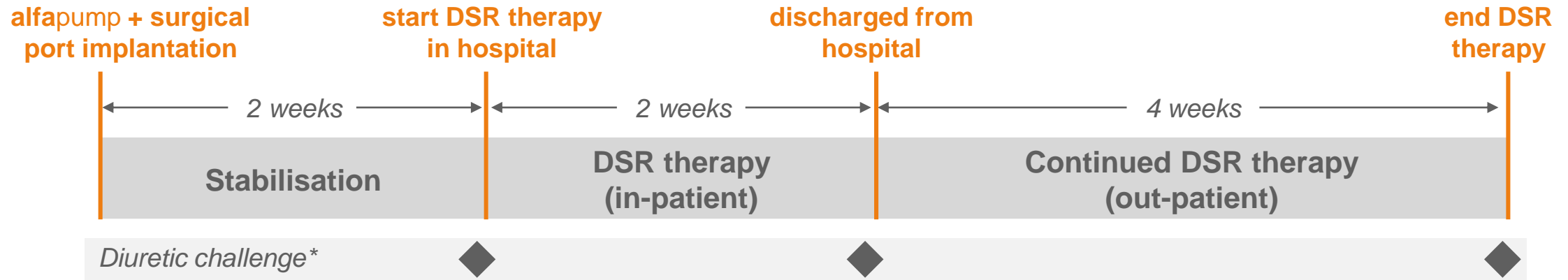
1. Infusion of DSR Drug
 2. 24 hour dwell
 3. Drainage
- Week 1: **5x** DSR therapy
 - Week 2-4: **3x/week** DSR therapy

Step 3: Catheter removal



RED DESERT: The first repeated DSR therapy study

Repeated dose proof-of-concept study of DSR in stable heart failure patients on high dose diuretics



Study Endpoints

- **Primary:** absence/rate of device, procedure and/or therapy related serious adverse events
- **Secondary:** ability of the **alfapump** DSR to maintain a neutral sodium balance in the absence of diuretic therapy and the sustained effect of DSR to maintain euvolemia
- **Exploratory:** impact of DSR to restore response to diuretics following DSR treatment

* 40mg intravenous furosemide to evaluate diuretic response (6 hour sodium and fluid excretion)



RED DESERT: Successful proof-of-concept study

8 euvoletic HF patients on high dose diuretics treated with DSR 3x per week up to 6 weeks

Highly effective management of fluid and sodium balance

- Generally safe and well tolerated; no clinically relevant hyponatremia

Significant improvement in cardio-renal status

- 30% decrease* in NT-proBNP** ($p < 0.001$)
- 22% increase* in eGFR** ($p < 0.001$)

Dramatic and sustained improvement in diuretic response***

- Over 150% increase** in six hour excretion of sodium

No congestion-related heart failure re-hospitalizations

Presented as
Late-Breaker and
Highlight at
Heart Failure 2021

“Simultaneous normalization of diuretic response and improvement in cardio-renal status is a never before seen treatment effect” – Dr. Testani, Yale

* Paired statistical analysis of patients with baseline and D42 value (N=7); ** mean value; ***assessed by 6-hour excretion of sodium after IV administration of 40mg furosemide

NT-proBNP: N-terminal-pro hormone B-type Natriuretic Peptide (analysed in local lab); eGFR: estimated glomerular filtration rate



RED DESERT: Highly effective management of fluid & sodium

No loop diuretics required during study despite mean baseline dose of >300 mg/day furosemide equivalents

Subject	Ejection Fraction (%)	NT-proBNP (pg/mL)	Daily Dose of loop diuretics (mg)**	
	At baseline	At baseline	At baseline	During DSR Treatment (D0 - 42)
101-001	26	6,110	80	0
101-002	27	2,863	200	0
101-003	28	1,536	400	0
101-005	25	1,628	120	0
101-006*	23	1,963	80	0
101-007*	26	5,927	300	0
101-008*	20	7,853	600	0
101-009†	20	8,831	800	0
Mean (± SD)	24 ± 3	4,589 ± 2,945	323 ± 263	

Study recruited severely ill heart failure patients on very high doses of oral loop diuretics

* in follow-up extension with DSR; † subject 101-009 died at D3

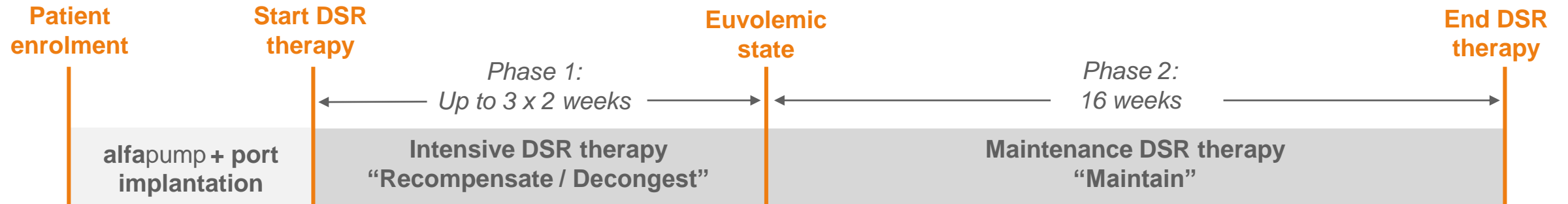
** loop diuretics in furosemide equivalents (mg)

NT-proBNP: N-terminal-pro hormone B-type Natriuretic Peptide – analysed in local lab



SAHARA: Ph. 2a in target patient population

Decompensated heart failure patients with persistent congestion on high dose diuretics



Study Endpoints

- **Primary:** safety and tolerability of **alfapump** DSR therapy
- **Secondary:** feasibility of DSR therapy to restore and maintain euvoolemia without additional loop diuretics



SAHARA: Expanding into decompensated patients

10 evaluable diuretic-resistant HF patients with persistent congestion on 2-6 weeks of intensive DSR therapy¹

Safely, effectively and rapidly eliminate persistent congestion & restore euvolemia

- All patients achieved euvolemia within one week of intensive DSR therapy
- Weight loss* of **7kg** vs. baseline at end of intensive DSR therapy & no clinically relevant hyponatremia

Considerably benefit cardio-renal status

- **More than 30%** reduction* in NT-proBNP
- Stable eGFR despite dramatic fluid loss

Dramatic and sustained improvement in diuretic response**

- End of intensive DSR therapy: **more than 160%** increase* (near normal levels)

No congestion-related heart failure re-hospitalizations

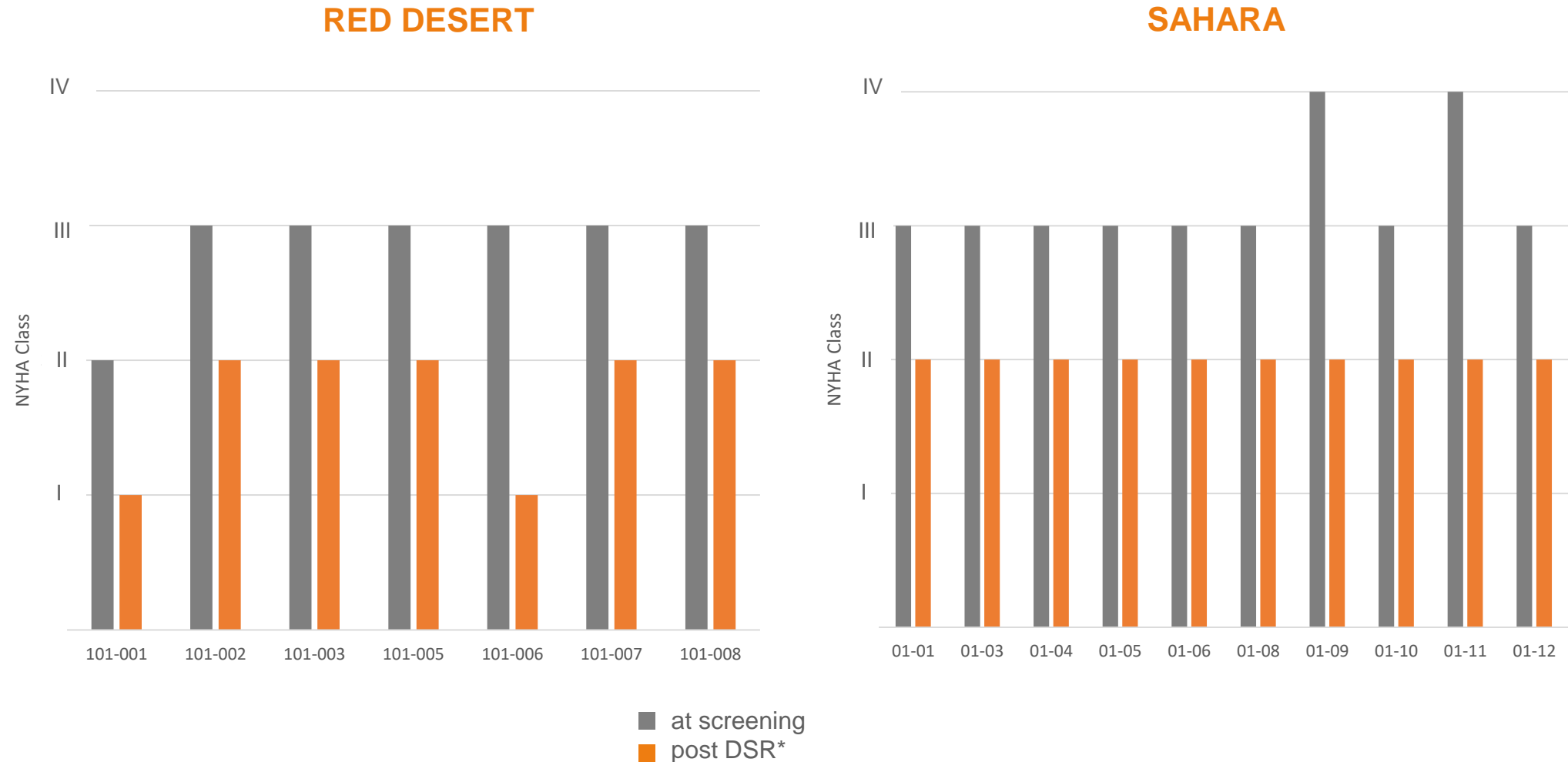
“The SAHARA results are highly encouraging and indicate the potential for DSR therapy to deliver clinically meaningful decongestion and durable improvements in cardio-renal function and thus diuretic response” – Dr. Testani, Yale

¹ two additional patients were dosed but one patient died due to a cardiac arrest three days after study initiation and for one patient the study protocol was not correctly applied

*mean value; ** assessed by 6-hour excretion of sodium after IV administration of 40mg furosemide; **NT-proBNP**: N-terminal-pro hormone B-type Natriuretic Peptide (analysed in local lab); **eGFR**: estimated glomerular filtration rate



Consistently improved NYHA class



* Post DSR = end of phase 1 (6w) in RED DESERT and day 42 in SAHARA

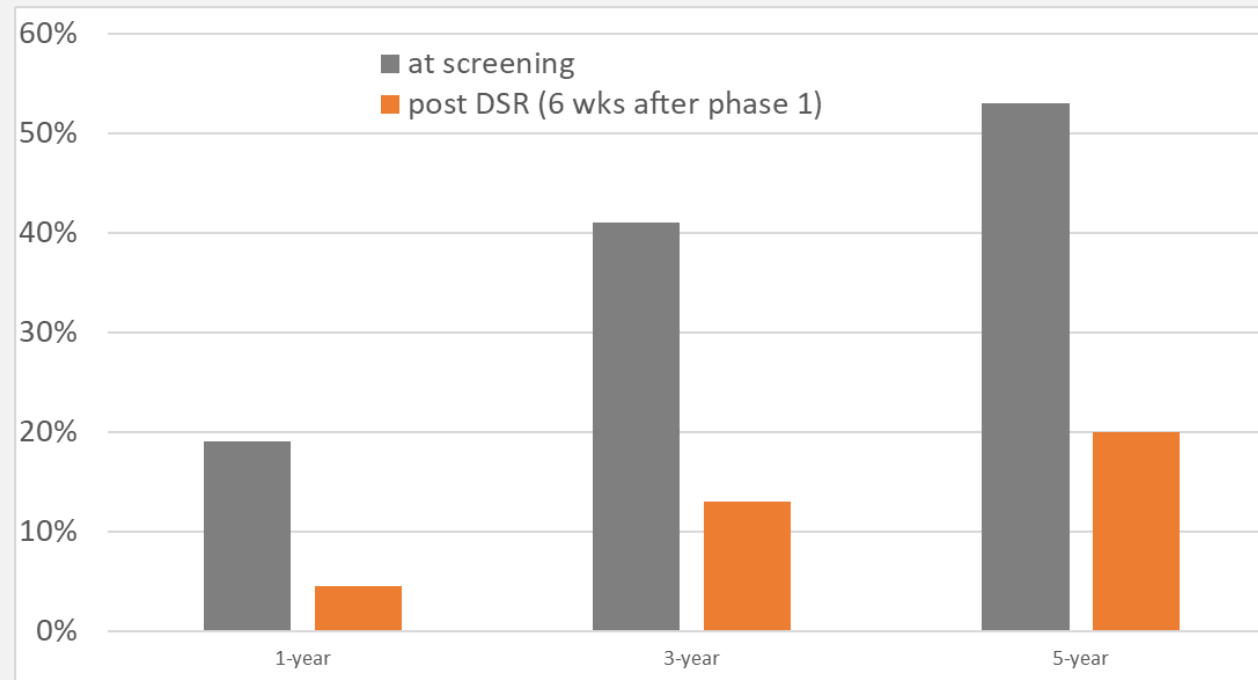
Note: data on NYHA classification collected outside study protocols of RED DESERT and SAHARA



Strong reduction in predicted mortality

Over 75% reduction in predicted one-year mortality based on Seattle Heart Failure Model*

- Seattle Heart Failure Model is a highly validated model to predict survival in heart failure
 - Validated in approx. 10,000 heart failure patients in over 46 countries with >17,000 person-years follow-up
 - Excellent accuracy, with predicted vs. actual one-year survival rate of respect. 90.5% vs. 88.5%
- Substantial reduction in overall predicted mortality post DSR* vs. screening, at 1y, 3y and 5y:



* Predicted one-year survival analysis using Seattle Heart Failure Model with seven patients from RED DESERT and ten patients from SAHARA pre- and post-intensive DSR therapy. Analysis includes physician-assessed data collected post hoc.

** Post DSR = 6 weeks after phase 1 (phase 1 = 6th week in RED DESERT; 2nd, 4th or 6th week in SAHARA)



SAHARA: Safety

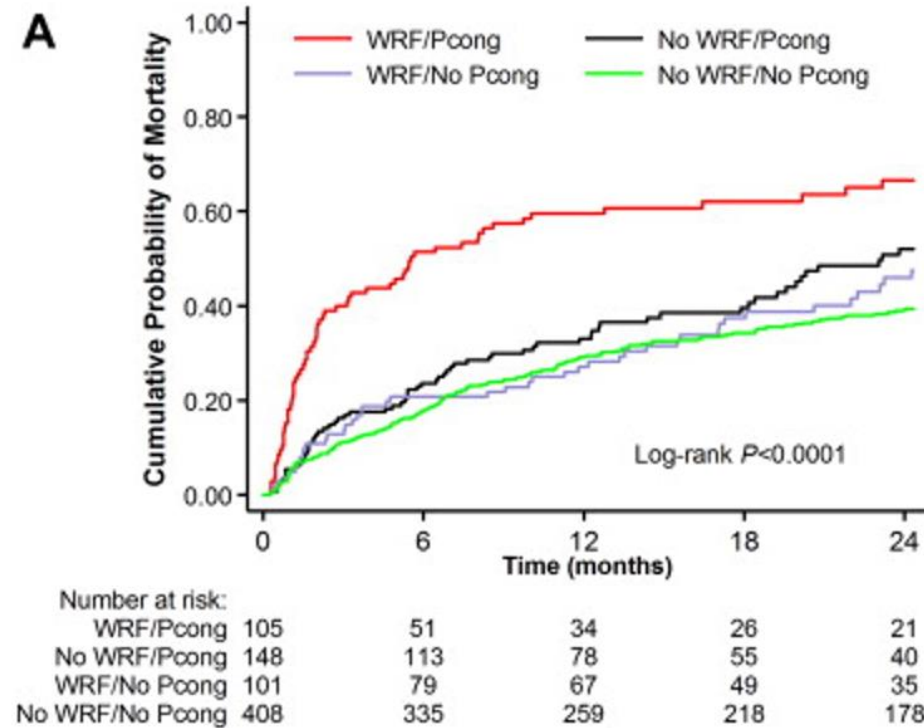
No clinically relevant changes in serum sodium levels or progressive hyponatremia

- 3 SAEs in 3 patients:
 - Blocked peritoneal catheter (phase 2) 2 in 2 patients → DMC: related to study device but unrelated to implant procedure or treatment
 - Stable angina (extension) – ongoing 1 in 1 patient → DMC: unrelated to study device, implant procedure or treatment
- No SAEs related to implant procedure or DSR treatment



Persistent congestion and Worsening renal function

Persistent congestion and worsening renal function are key targets in decompensated heart failure



Wattad et al, American Journal of Cardiology, 2015: interaction between worsening renal function and persistent congestion in acute decompensated heart failure (study of 762 patients)

Evaluating potential for DSR in renal failure

Complementary opportunity leveraging heart failure programme capabilities

- Like heart failure, **kidney failure / dialysis** is one of the leading burdens for healthcare systems and carries a high mortality / morbidity burden
- Hemodialysis seeks to tackle two different challenges – removal of uremic toxins as well as managing the sodium and fluid balance – creating **clinical and economic challenges**
- **DSR therapy** has the potential to **more effectively manage the fluid and sodium balance** of this large patient group
 - ⇒ Leveraging all of our experience from congestion / fluid overload in heart failure
- We are **exploring the potential of DSR** in this large and important patient group, potentially reducing hospitalisations, the cost and burden of hemodialysis therapy as well as mortality
 - ⇒ **Supporting work of Dr McIntyre** (Lawson Health Research Institute, Ontario, Canada): evaluating the use of DSR therapy in effective volume management and sodium removal in prevalent hemodialysis patients (NCT04603014)