The Legacy of Dr. Richards P. Lyon

Innovator of Significant Urological and Medical Ideas and Lessons from his History of Individual Clinical Research
To Encourage Others:

• This is a *Current History Story* of what a Motivated Individual Can Do

• In a *Setting of Private Practice* (no Residents, Fellows, Grants etc.)

• *Semi-Retired*, He Continues Studies
Basketball Scholarship

(Stanford University Playing in Madison Square Garden)

Traded a Year of Championship Fame for World Travel
Trip Around World with 1st Brother
(included Bicycling 3,000 miles Around Europe)

His Preparation for a Diplomatic Career
Double Honor Graduate *
at Stanford University
Phi Beta Kappa    Tau Beta Pi (Engineering)

Career Opportunity as Engineer in the Family Business
Chose *Medicine Over Engineering*

“Doing was not enough... he had to give”

Early on His Journey, He was Encouraged by Three Mentors
Dr. Thomas Addis
(created Creatinine Clearance Test)

Introduced Dick to Fluid Balance Sheets + Insensible Fluid Loss
Dr. Frank Hinman, Sr.
(Urology Residency Chairman, UCSF)

“Obstruction is the Greatest Foe to Kidney Function”
Dr. Donald R. Smith
(His Mentor for Pediatric Urology)

Dick became an ‘early’ Secretary/Treasurer & President of The Society For Pediatric Urology
Ever since, Dick accepted the need to live two lives of accomplishment.
His Dictum As An Engineer

“If You are Going to Solve a Problem,
You Need to Know What the Problem is
and If You can Add Something Extra
To the Solution, -Fine.”
Problem: Pulmonary Emboli from Deep Vein Thrombosis

(His Fellowship in Boston)

To prevent pulmonary emboli, the emphasis was on improving anticoagulant therapy.

Dick thought a better solution was to minimize stasis by increasing venous flow.

(Borrowed Navy Flyer Pressure Puttee for Studies)
Guided by the Hydraulic Laws of Bernoulli, he proved his hypothesis.

Cuff Pressure off  Cuff Pressure on

The smaller the tube, the greater the flow

15 cm. calf pressure increased the flow 5 times

15 cm. calf pressure velocity

0.5 TO 2.5 cm/sec
Dr. Lyon’s **Role in the Origin of the Today’s Compression Hose**

The then called “Superior Hose” based on his studies for the Prevention of Pulmonary Emboli from Deep Vein Thrombosis (DVT).

The Bauer and Black Company designed the original “Sup-Hose” for him.

Now urged for elderly travelers on long air trips!
Dr. Reginald Smithwich’s Anterior Approach for Lumbar Sympathectomy for Rx of Hypertension (Before the Era of Alpha Blockers)

Dr. Lyon pioneered his Chief’s approach later for Kidney Surgery
Anterior Muscle Splitting Approach

Less Post-OP Pain vs. Flank Incision
Innovation Gained Acceptance

Succeeded by Laparoscopy *for even less post-op pain*
His Sympathetic Nervous System Experience Led to *Cord Blocks* for Orchitis, Epididymitis, Stone Colic & Torsion

Cord Block

Mumps Orchitis
His *Cord Blocks* facilitated early manual de-torsion of testicle for salvage of its function.

![Cord Block](image1)

![Testicular Torsion](image2)
Dr. Lyon’s
Recognition of an Epididymal Abnormality Liable for Torsion

Epididymus Not Attached to Lower Pole of Testicle

Hence, the “Bell Clapper” Twisting Potential
*His Pictures of the Bilateral Abnormality*
Made Post De-Torsion **Contra-Lateral Orchiopexy**
also Mandatory

* Occurs only in 50% of cases
The Lyon garage-made Litter Scale for Measuring Daily Fluid Gains and Losses

Evolved the idea of Dr. Owen Wangensteen to Weigh Patients

Post-op renal failure with fluid overload

Wgt. Loss of about 1 lb./day over period of renal recovery
The Lyon In-Bed Scale for Daily Weighing (Patient no Longer had to be Moved)
Dr. Lyon’s Operating Room Table Scale for Continuous Weight Monitoring
Lyon Electrolyte “Bear Juice”
RX for Heat Exhaustion/Muscle Cramps
for Univ. Of California “Golden Bears” Football Team

*Marketed 2 Years Later by University of Florida – Same Formula with a Little Extra (Unneeded) Potassium

California Beat Arkansas with Bear Juice, -Cartoon
Dr. Lyon’s National Prize Winning
“Piddle Pattern” Urodynamics, 1965

Microphone attached underneath the potty in the toilet with leads to recorder
Three Characteristic Sound Patterns

The Better the Flow, 
------- the Higher the Pitch

Often an Obstructive/Irritant Cause 
(Urethral Valve, Distal Urethral Stenosis, as examples)

Often an infection cause, 
Note: gaps of muscle spasm

The “Piddle Sound Pattern” was the Predecessor 
for Modern Urodynamics Measuring Pressure and Flow 
Requiring a Catheter Foreign Body
Distal Urethral Stenosis (DUS)

DX Alert can be the Hesitant/Irritant “Piddle Pattern”

Congenital Membrane Remnant of DUS Similar to Hymen Remnant of the Vagina

The DX of DUS confirmed with Bougie Check

The RX of DUS is Rupture/Dilation with Sounds or Localized Incision
This Syndrome of DUS Properly Treated Has Not Recurred in Many Years of His Follow-Up Studies

Dr. Lyon has found DUS in Females at various ages.

**He still feels this Obstructive/Irritating Abnormality is Under-Diagnosed and Under-Treated!---begs for control studies**
Dr. Lyon’s Fixed Urine Specific Gravity/Densitometry Discovery Studies of Advanced Renal Disease

Glomerular Disease
if urine fixed at 1.010

Obstruction Element
If urine fixed at less than 1.010 (example 1.006 or 1.008)
Child with Fixed Urine Sp/Gr 1.006
Bilateral Ureterostomy

Male Child-Age 6 Months
Note Drainage Bag

Case of Posterior Urethral Valve
Adult 43 Yrs Later-Height 6’ Normal

The Early Obstruction Relief

? Saved Tubular Growth Factor

Patient with Father

Patient with Dick
Dr. Lyon’s Spread-Sheet Books

Evening Homework from Private Practice Office Notes

Followed his Cases with Studies for Many Years
Several Contributions
Through His *Love of Photography*
& His Facility with the Camera

Earned National Attention
His Movies of Ureteral Orifices Became Urologic Classics

**ORIFICE**
- Function
- By Cine Studies
- Locations
- Types

**ORIFICE**
- Relationship to Reflux
- Value of Fixation to the Trigone after Repair
Intermittent Catheterization

Dr. Lyon Extended

The Principle of Intermittent Catheterization of Dr. Jack Lapides for Children with Myelomeningocele to Prevent Ureteral Reflux

Trabeculation and Reflux are gone!
Records Confirm that Dr. Lyon Performed the First Y-V Plasty *in a Male* For Contracture of the Vesical Neck Later with *His Piddle Patterns* and *Movies of the Mobility of the Vesical Neck*, Dr. Lyon became a *Strong Voice* to *Condemn* the Prevailing Misuse of the Y-V Plasty in Girls.
Current Vehicle Safety Work Solves “Blind Spot” for Lane Change
(Rx for People with Neck Problems)

Note: The Target Frame on the Convex Mirror of the Passenger’s Side. It’s use Provides Distance and Speed of the Trailing Vehicle.
Convex Mirror on Passenger Side
Safe to Change Lanes if Trailing Vehicle Stays Within the Target Frame.
(A car would be 50’ ft./a truck 60’ ft. behind your vehicle.)

If the Image moves in and across the Target Frame, the car is moving faster than you and it is not safe to change lanes.
Flat Mirror on Driver’s Side

Note: Large Red “Blind Spot”

Flat Mirror-Only 14 Degree Rear Vision

Convex Mirror/43 Degree Rear Vision

Driver Side

Passenger Side
Cover Flat Mirror of Driver’s Side

*With a Convex Mirror*

and Target Frame

Dr. Lyon’s Second Contribution To Highway Safety!
Major “Blind Spot” Gone!
Can Change Lanes Without Turning Head

Now, 43 Degrees Range of Vision on Both Sides

THE RANGE OF VIEW IS NOW COMPLETE!
CONTINUING SERVICE (In Dr. Lyon’s Retirement)

President, American Assn of GenitoUrinary Surgeons

A stack of Email contacts with Surgeons in 7 under-developed countries attempting Pediatric Urology

A recent visit by a grateful colleague
Napa Valley Home with Carol, Wife and Artist. Married 62 Years
Three Daughters Live in the Area

Vine to Wine
Dick at Grape Press

Their Vineyard
An Extraordinary Individual
Legends from His Long Life
Lessons for Those Destined Ahead
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